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IN THE

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, A. D. 1938.

THE MAYTAG COMPANY, Petitioner,
vs.
HURLEY MACHINE COMPANY and ELECTRIC HOUSEHOLD UTILITIES CORPORATION, Respondents.

THE MAYTAG COMPANY, Petitioner,
vs.
EASY WASHING MACHINE CORPORATION, Respondent.

Nos. 76, 77.

GENERAL ELECTRIC SUPPLY CORPORATION, Petitioner,
vs.
THE MAYTAG COMPANY, Respondent.

No. 661.

BRIEF FOR THE MAYTAG COMPANY, PETITIONER (PLAINTIFF) IN NOS. 76 AND 77; RESPONDENT (PLAINTIFF) IN NO. 661.

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INDEX.

Foreword.

Opinions of the Lower Courts 1

Jurisdiction 2

Statement of Case 2

The Single Issue Here, as in the Second and Eighth Circuit Courts, Is Whether the Specific Washing Machine Claims 23, 26 and 29 of the Snyder Patent Are Valid. No Claim for a Method Is Involved 4

Snyder's Invention Satisfied An "Old and Recognized Want" Which Had Baffled Inventors and Engineers for More Than a Century. "It Attained An End Not Attained by Anything in the Prior Art, and Has Been Accepted As the Termination of the Struggle for a Completely Successful" Washing Machine 4

The Washing Machine of the Snyder Patent . 8

Previous Contests Over Snyder's Invention . 12

(1) Interference proceedings 12

(2) Brooklyn Edison Case 13

(3) The cases of Maytag *vs.* Easy and Hurley 16

(4) The suit of Maytag *vs.* General Electric Supply Corporation 17

Findings of Fact and Conclusions of Law . . 19

Old and Largely Abandoned Types of Washing Machines 19

(a) The Old Fashioned Washboard . . 20

(b) S. Tucker Washing Machine 21

(c) The Rubboard Type With Oscillating Tub 22

(d) The Rubboard Type Having A Vertically Movable Rubboard 23

(e) The Peg Dolly Type 26
(f) The Oscillator Type 28
(g) The Cylinder Type 29
(h) Vacuum Cup Type 30
Judge Otis well summarized:—
(a) With Respect to These Prior Art Machines. 32
(b) With Respect to Snyder's Work and Invention 33
Specifications of Error 34
Points and Authorities 35
Point I—So far as the findings of fact of the judge who saw the witnesses depend upon conflicting testimony, or upon the credibility of witnesses, or so far as there is any testimony consistent with the findings, they must be treated as unassailable 35
Point II—Judge Otis and the Eighth Circuit Court of Appeals were right in exercising their independent judgment in construing the Snyder patent in the General Electric case . 36
Point III—The presumption of invention arising from the grant of a patent must be overcome by the defendants beyond a reasonable doubt 36
Point IV—Snyder's invention fully satisfies all the tests of invention 37
Point V—The claims of the Snyder patent should be construed in the light of its drawings and specifications, and with respect to the novel features and advantages inherent in the invention 38

Point VI—Claims of the character of claims 23, 26 and 29 of the Snyder patent have been repeatedly passed on and held to be proper for the protection of the claimed invention . . . 38
Point VII—Where the substance of an invention is taken, as by defendants here, infringement is not avoided by changes in detail of construction or by additions or improvements which do not deprive the device of its essential mode of operation 39
Point VIII—Defendants' statements in their trade circulars and advertisements are strong evidence against them both as to validity of the patent and its infringement 40
Point IX—Law of anticipation and patentability 40
Point X—Prior use must be proved beyond a reasonable doubt 41
Point XI—A patent, especially a foreign one (such as the Jardine British patent), is to be measured as anticipatory not by what might have been made out of it, but only by what is clearly and distinctly expressed in it . . . 41
Point XII—The disclaimer 41

ARGUMENT 42

I—The Issue Here Is Whether the Specific Machine Claims 23, 26 and 29 of the Snyder Patent Are Valid. No Method Claim Is Here Involved 42
(a) Snyder's Invention, Patent and Machines Made Thereunder 43

(b) Snyder's Drawings and Specifications Contain a Complete Disclosure and Explanation of the Novel Features of His Invention and Teach How To Best Utilize It 45
(c) Advertisements of Defendants' Machines Stressed Snyder's Advantages . 50
(d) Legal Effect of Defendants' Advertisements and Circulars 54
II—Defendants' Machines Utilize Each Element of the Combination and Specific Construction and Operation Covered By Each Claim in Suit 55
Claim 23 56
Claim 26 61
Claim 29 64
Judge Byers, Judge Otis and the Court of Appeals for the Eighth Circuit Properly Considered the Patent Specifications and Drawings and the Prior Art In Interpreting the Claims In Suit Under the Decisions of This and Other Courts 66
III—The Prior Art Principally Relied Upon by the Defendants, On Which the Court of Appeals for the Second Circuit Held the Snyder Patent Claims 23, 26 and 29 Invalid, and Which Judge Byers, Judge Otis and the Court of Appeals for the Eighth Circuit Found and Held Did Not Disclose the Invention Covered by These Claims . . 69
(A) The Davis Patent and Machines Made Thereunder by the 1900 Company . . . 69

That the Action of the Davis Machine is Substantially Identical With All Rubboard Type Machines on the Market Previous to 1922 and Now Abandoned Is Fully Supported by Defendants' as Well as Plaintiff's Witnesses . . 71
The Machine of the Davis Patent Will Not Wash Clothes in the Manner Stated Therein 76
The Davis and Snyder Machines Are Radically Different in Construction and Operation 80
(B) The Doughty & Davis Patent No. 1,496,305 and Machines Made Thereunder Too Late To Anticipate Snyder and Do Not Utilize His Invention 83
(1) Snyder's Disclosure and Reduction to Practice Was Long Prior to the Conception or Use of the Machine of the Doughty & Davis Patent 83
The Testimony Supports the Findings That Snyder Made His Invention Before Any Date That Can Be Claimed for Doughty & Davis 85
Snyder's Work Preceded This by More Than Eight Months 85
(2) The Machine of the Doughty & Davis Patent Neither Has the Construction Nor is Capable of the Operation Disclosed and Claimed by Snyder 92
(C) The Jardine British Patent No. 18,202 of 1891 96
(D) The Other Art Referred to by Defendants in the Lower Courts 101

IV. (A) The Court of Appeals for the Second Circuit Disregarded the Findings of the Trial Court in the Brooklyn Edison Case, on the Authority of Which the Easy-Hurley Cases Were Decided . . . 102
(B) The Second Circuit Court of Appeals, in its Decision Written by Judge Manton in the Brooklyn Edison Case, on the Authority of Which the Easy-Hurley Cases Were Decided, Relied Upon and Adopted Numerous Erroneous Statements in Defendants' Briefs 103
(1) With Respect to the Snyder Patent 104
(2) With Respect to the Patents on Which it Relied to Invalidate the Snyder Claims 105
(a) Davis Patent and Machines Made Under It 105
(b) Doughty & Davis and Machines Made Under It 105
(c) Jardine British Patent 106
V. Validity of Snyder Patent Not Affected by Retention of Claim 39 108
Conclusion 112

Cases Cited.

Abercrombie & Fitch Co. *v.* Baldwin, 245 U. S. 198 39
Adamson *v.* Gilliland, 242 U. S. 350 . . 19, 35, 85
Alabama Power Co. *v.* Ickes, 302 U. S. 464 . . 35
American Engineering Co. *v.* Underfeed Stoker Co., 41 F. (2d) 985 40
Barbed Wire Patent, 143 U. S. 275 . . 19, 37, 41
Benbow-Brammer Litigation, 98 Fed. 880; 106 Fed. 918; 168 Fed. 271; 132 Fed. 614; 157 Fed. 559; 144 Fed. 429; 158 Fed. 627; 166 Fed. 114; 170 Fed. 965 27
Blake Automotive *v.* Cross Mfg. Co., 13 F. (2d) 30 38
Cantrell *v.* Wallick, 117 U. S. 689 . . . 41, 82
Carnegie Steel Co. *v.* Cambria Iron Co., 185 U. S. 403 37
Carson *v.* American, 4 F. (2d) 463 . . 41, 101
Chesapeake & Ohio Ry. Co. *v.* Kaltenbach, 95 F. (2d) 801 36
Chicago Pneumatic Tool Co. *v.* Hughes Tool Co., 97 F. (2d) 945 39
Continental Paper Co. *v.* Eastern Paper Bag Co., 210 U. S. 405 . . . . . 39, 49
Davis *v.* Schwartz, 155 U. S. 631 . . . 19, 35
Diamond Rubber Co. *v.* Consolidated Rubber Tire Co., 220 U. S. 428 . . 4, 36, 37, 39, 40, 112
Drum *v.* Turner, 219 Fed. 188 41
Dubois *v.* Kirk, 158 U. S. 58 37
Eibel Co. *v.* Paper Co., 261 U S. 45 . . . . . 36, 37, 38, 41, 49, 50, 66, 67
Ensten *v.* Simon, Ascher & Co., 282 U. S. 445 16, 42, 110
Esso, Inc. *v.* Standard Oil Co., 98 F. (2d) 1 . . 35
Expanded Metal Co. *v.* Bradford, 214 U. S. 366 37, 49

General Chemical Co. *v.* Standard Works, 77 F. (2d) 230 42
General Electric Co. *v.* Save Sales Co., 82 F. (2d) 100 36
General Electric Supply Corp. *v.* Maytag Co., 100 F. (2d) 218 2, 3, 6, 7, 10, 12, 15, 18, 25, 34, 44, 45, 49, 56, 60, 66, 71, 73, 75, 79, 93, 98, 102, 105, 107, 108, 109, 111
General Pictures Co. *v.* Electric Co., 304 U. S. 175 36
Gordon *v.* Walcott Co., 32 F. (2d) 55 . 36, 38, 40
Graham Paper Co. *v.* International Paper Co., 46 F. (2d) 881 . . . . . 40, 55
Hartford *v.* Obear, 39 F. (2d) 769 . . . 13
Hartford-Empire Co. *v.* Swindell Bros., 99 F. (2d) 61 39
Hildreth *v.* Mastoras, 257 U. S. 27 . 13, 36, 37, 39
Hobbs *v.* Beach, 180 U. S. 383 . . 37, 38, 39, 40
Hoeltke *v.* Kemp, 80 F. (2d) 912 . . 36, 37, 39
Horton Mfg. Co. *v.* White Lily Mfg. Co., 213 Fed. 471 28
Howe Machine Co. *v.* Coffield Motor Washer Co., 197 Fed. 541 28
Iowa Washing Machine Co. *v.* Montgomery Ward & Co., 227 Fed. 1004; 234 Fed. 88 . . . 28
Iowa Washing Machine Co. *v.* Saecker, 230 Fed. 117 28
Keystone *v.* Adams, 151 U. S. 139 . . . 39, 49
Krementz *v.* S. Cottle Co., 148 U. S. 556 . 37, 39
Leeds & Catlin *v.* Victor Talking Machine Co., 213 U. S. 301 . . . . . 42, 110
Loom Co. *v.* Higgins, 105 U. S. 580 . 37, 38, 49, 68
Machine Co. *v.* Murphy, 97 U. S. 120 . . . 39
Mallinckrodt *v.* Squibb, 6 F. Supp. 173; 69 F. (2d) 685 . . . . . 40, 55

Mason *v.* United States, 260 U. S. 545 . . . 19
Maytag Co. *v.* Brooklyn Edison Co., 11 F. Supp. 743 . . 2, 4, 5, 7, 8, 10, 11, 13, 14, 15, 34, 45, 49, 51, 54, 56, 63, 69, 83, 91, 93, 99, 102, 103, 104, 105
Maytag Co. *v.* Brooklyn Edison Co., 86 F. (2d) 625 . . . . . 1, 4, 14, 34, 99, 103
Maytag Co. *v.* Brooklyn Edison Co., 300 U. S. 662 4, 16
Maytag Co. *v.* Easy Washing Machine Company; Same *v.* Hurley Machine Co. *et al.*, 96 F. (2d) 87 . . . . . 1, 2, 4, 16, 108
Maytag Co. *v.* General Electric Supply Corp. (unreported, see appendix, p. 25), affirmed 100 F. (2d) 218 C. C. A. 8 . . . . . 2, 7, 11, 15, 17, 65, 93, 102, 103, 104, 107, 108
Metropolitan Corp. *v.* Cleveland, 36 F. (2d) 477 42, 111
Minerals Separation *v.* Hyde, 242 U. S. 261 . 38, 39
Morley *v.* Lancaster, 129 U. S. 263 . . . 39
Mumm *v.* Decker & Sons, 301 U. S. 168 . . 36, 41
National Battery Co. *v.* Richardson Co., 63 F. (2d) 289 . . . . . 39, 40
Naylor *v.* Alsop Process, 168 Fed. 911 . . 41, 100
Nelson Co. *v.* Meyers & Bro. Co., 29 F. (2d) 968 42, 111
Nordberg Mfg. Co. *v.* Woolery Co.,79 F. (2d) 685 36, 38
Ottumwa Box Car Loader *v.* Christy, 215 Fed. 362 38
Permutit Co. *v.* Wadham, 13 F. (2d) 454 . 42, 110
Peters Co. *v.* McDonald, 59 F. (2d) 974 . . 40
Potts *v.* Creager, 155 U. S. 597 . . 37, 40, 55
Radio Corp. *v.* Radio, 293 U. S. 1 . . 13, 36, 82
Root Refining Co. *v.* Universal Oil Products Co., 78 F. (2d) 991 41
Rubber Co. *v.* Goodyear, 9 Wall. 788 . . . 38
Sachs *v.* Hartford, 47 F. (2d) 743 . . 42, 111
Sessions *v.* Romadka, 145 U. S. 29 42
Seymour *v.* Osborne, 11 Wall. 516 39
Skelly Oil Co. *v.* Universal Oil Products Co., 31 F. (2d) 427 41

Smith *v.* Snow, 294 U. S. 1 . . . 38, 39, 49, 68
Stead *v.* Kryptok, 214 Fed. 368 38
Temco *v.* Apco Co., 275 U. S. 319 38
Triplett *v.* Lowell, 297 U. S. 638 . 16, 18, 36, 42, 110
Tyra *v.* Adler, 85 F. (2d) 548 . . . 39, 40
United Chromium Co. *v.* International Silver Co., 60 F. (2d) 913 . . . . . 42, 111
United Shirt Co. *v.* Beattie, 149 Fed. 736 . . 41
United States *v.* Chemical Foundation, 272 U. S. 1 36
United States *v.* Nugent, 100 F. (2d) 215 . . . 35
Unruh *v.* Snyder, 49 F. (2d) 1038 13
Wayne Mfg. Co. *v.* Coffield Motor Washer Co., 209 Fed. 614 28
Wayne Mfg. Co. *v.* Coffield Motor Washer Co., 227 Fed. 987 28
Winans *v.* Denmead, 15 How. 330 39
Wisconsin Alumni Research *v.* Breon, 85 F. (2d) 166 . . . . . 36, 41

Statutes.

Rules of Civil Procedure for the District Courts of the United States—Rule 52 (Appendix, p. 57) 35
Sections 4917, 4922, 35 U. S. C. §§ 65, 71 (Appendix, p. 57) 110

Foreword.

To the Honorable, the Chief Justice of the United States, and the Associate Justices of the Supreme Court of the United States:

The records in these cases relate to a common subject-matter, to-wit, (1) the validity of claims 23, 26 and 29 of the Snyder patent, and (2) the infringement of that patent by defendants' machines, which are substantially identical in each case. The testimony of the witnesses relates solely to these subjects and is much the same in each case. For that reason we have felt that the time of the Court would be conserved and duplication avoided by submitting a single brief for The Maytag Company (Petitioner in the Easy-Hurley cases and Respondent in the General Electric case).

As the testimony and exhibits in the voluminous records to which we have occasion to refer are so widely separated, and in many instances indistinct, we have included in our brief not only direct references to the testimony and exhibits, but have set out portions of them to make them more readily available.

The findings of fact and decrees of the District Courts and the opinion of Judge Otis (not published) are printed and filed as an appendix to this brief (indicated herein as App.).

We regret the length of this brief, but believe and hope the Court will find that our presenting the cases in this manner will lessen its burden.

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THE MAYTAG COMPANY, Petitioner, vs. **HURLEY MACHINE COMPANY and ELECTRIC HOUSEHOLD UTILITIES CORPORATION**, Respondents.	**Nos. 76, 77.**
THE MAYTAG COMPANY, Petitioner, vs. **EASY WASHING MACHINE CORPORATION**, Respondent.	
GENERAL ELECTRIC SUPPLY CORPORATION, Petitioner, vs. **THE MAYTAG COMPANY**, Respondent.	**No. 661.**

BRIEF FOR THE MAYTAG COMPANY, PETITIONER (PLAINTIFF) IN NOS. 76 AND 77; RESPONDENT (PLAINTIFF) IN NO. 661.

Opinions of the Lower Courts.

1. The opinion of the Court of Appeals for the Second Circuit in Nos. 76 and 77 is reported at 96 F.(2d) 87. This opinion (p. 88) and the record (EH 1414, 1437) show that the decrees in those cases were entered and affirmed upon the authority of the previous decision of the same court in *Maytag Co.* v. *Brooklyn*

Edison Co., 86 F. (2d) 625, which reversed the decision of the District Court, reported at 11 F. Supp. 743 (EH 68).

2. The opinion of the Court of Appeals for the Eighth Circuit in No. 661, affirming the decree of the District Court, in *General Electric Supply Corporation* v. *Maytag Co.*, directly in conflict with that of the Second Circuit Court of Appeals in Nos. 76 and 77, is reported at 100 F. (2d) 218.

Jurisdiction.

The writ of certiorari to the Circuit Court of Appeals for the Second Circuit in Nos. 76 and 77 was granted February 6, 1939 (EH 1481), to review decrees of that Court entered April 11, 1938 (EH 1461-2) in Nos. 76 and 77, on the showing that since the decision of that Court the Circuit Court of Appeals for the Eighth Circuit in the case of *General Electric Supply Corporation* v. *The Maytag Company,* 100 F. (2d) 218, had held valid and infringed the same claims of the Snyder patent in suit No. 1,866,779 as had been held invalid in Nos. 76 and 77.

The writ of certiorari to the Circuit Court of Appeals for the Eighth Circuit in No. 661 was granted March 13, 1939, on the showing of the converse.

Statement of the Case.

Plaintiff, The Maytag Company,* is the owner (EH 1412, 1435; GE 21, 14) of the Snyder patent No. 1,866,779, issued July 12, 1932, on a Washing Machine (application filed June 14, 1922) (P. E. 1, EH 657-670,

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*** As The Maytag Company, plaintiff in all cases, is petitioner in Nos. 76 and 77, and respondent in No. 661, we designate the parties as they appeared in the trial court, i. e., as plaintiff and defendant. We refer to the defendants in Nos. 76 and 77 as Easy and Hurley, respectively, and the defendant in No. 661 as General Electric, and to the defendant in the Brooklyn Edison case as Brooklyn Edison. In**

Of. 148; P. E. 1, GE 563-579, Of. 80). The undisputed testimony shows (EH 298-300) that machine claims 23, 26 and 29 of this patent are infringed by w. shing machines made and sold by each of the defendants, Easy-Hurley, in evidence respectively as P. E. 3 and 4 (physical exhibits, EH 1413, 1436, Of. 148, 171); by drawings thereof, P. E. 3A and 4A (EH 675-676, Of. 148, 300; and by advertising circulars and directions for operating them, P. E. 52, 53 (EH 783-5, Of. 327) and P. E. 18 to 24, inclusive (EH 707-717, Of. 168). These are known as "Easy" and "Thor" washers, respectively.

Defendants conceded that these machines charged to infringe have been sold by the Easy and Hurley Companies, since 1929 and 1928, respectively (EH 328-9).

Defendant's General Electric machines are substantially identical with the Easy machines (GE 243), and were decreed by the trial court (GE 51) and conceded in the Court of Appeals to infringe claims 23, 26 and 29 of the Snyder patent in suit (100 F. (2d) 218, 219). They are illustrated in evidence by P. E. 12 (physical exhibit, Of. GE 96, 118), cuts thereof, P. E. 12A (GE 671, Of. 147) and 12B (GE 673, Of. 501), and by General Electric advertising, circulars and directions for operating them, P. E. 16, 16A to F, inclusive (GE 693-715, Of. 133-5).

"Plaintiff's Exhibits 9, 10 and 11 [physical exhibits (Of. EH 160, GE 117-8, 95)] are specimens of the machines made by the plaintiff which embody the structure shown in the said [Snyder] patent." (EH 1413,

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referring to the respective records, we indicate that in Nos. 76 and 77 by the letters "EH", and that in No. 661 by the letters "GE", and have referred to the plaintiff's and defendant's exhibits in each of these cases as P.E. and D.E., respectively. "Of." indicates the record page where exhibits were offered.

1436, GE 21). They are also illustrated in cuts P. E. 9A, 10A and 11A (EH 698-700, Of. 300; GE 642-5, Of. 118, 95), and circulars P. E. 12 and 13A (EH 701-704, Of. 333-4); P. E. 11B-F (GE 647-669, Of. 93-4, 96, 130).*

The single issue here, as in the Second and Eighth Circuit Courts, **is whether the specific washing machine claims 23, 26 and 29 of the Snyder patent are valid. No claim for a method is involved.**

As the decision of the Second Circuit Court of Appeals in Nos. 76 and 77 is predicated on its earlier decision in the *Brooklyn Edison* case we shall have occasion to refer to its opinion in that case (86 F. (2d) 625) and to the opinion, findings and decree of the trial court (11 F. Supp. 743) which it completely disregarded and reversed.†

Snyder's Invention Satisfied an "Old and Recognized Want" Which Had Baffled Inventors and Engineers For More Than a Century. "It Attained an End Not Attained by Anything in the Prior Art, and Has Been Accepted as the Termination of the Struggle For a Completely Successful" Washing Machine (220 U. S. 434).

"Understanding of this controversy requires that something be said of the course of events" in the wash-

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*** For convenience, we attach at the end of this brief Chart I showing vertical cross-sectional views of plaintiff's gyrator machine, P. E. 9, 10 and 11 in each case, made under the patent in suit, and defendants' Easy and Hurley machines, P. E. 3 and 4, respectively, and the General Electric machine, P. E. 12. The numbers designating the parts of each structure correspond to those in the Snyder patent drawings.**

† The record in the Brooklyn Edison case, marked for identification as D. E. A (EH 344, and D. E. 36 (GE 278), was filed in this court in connection with the petition for certiorari, denied 300 U. S. 662.

ing machine industry both before and since the plaintiff put the Snyder invention "on the market in 1922."

"By that time and as the result of efforts which had persisted for over ninety years, washing machines had come to occupy an important place in the domestic economy of the country."

"The mitigation of the rigors of a prosaic task which was their purpose has been a constant challenge to inventive skill from 1809 when the first patent for such a machine was granted, until the present time." (*Maytag Co.* v. *Brooklyn Edison Co.* (Judge Byers), 11 F. Supp. 743, 744.)

Ever since clothes have been made, they have been washed to cleanse them. In the earliest days, this was done by rubbing and squeezing the clothes in water by hand or by pounding them on rocks after they had been submerged in water. Clothes are still thus washed in some of the more primitive countries.

In order to make hand washing easier than these primitive methods, a washboard was early provided, first made of wood and later of metal, having a corrugated rubbing surface (P. E. 5, EH 677, Of. 152; P. E. 60, GE 637, Of. 83). The housewife placed this washboard in the tub, containing water and clothes, and rubbed and scrubbed the clothes by hand over its corrugated surface in washing them. This method of hand washing was extensively used in households throughout the country and is still being used to some extent (EH 225).

Ever since 1809 (Tucker patent, P. E. 33, GE 811, Of. 500, *infra,* p. 21) inventors had been devising and attempting to improve washing machines in which clothes were washed by mechanically rubbing, squeezing, twisting and manipulating them in a tub in much the same manner as they were washed on the old fash-

ioned washboard. While these machines saved some of the housewife's labor, they were slow in operation, did not satisfactorily clean the clothes and were much more injurious to them than when washed by hand. Delicate fabrics could not be washed in them without mutilation (EH 189, 190, 199-200, 225-6, 245-6; GE 24, 81-2).

The successive types used commercially have been known as—**the scrub** or **rubboard type,** provided with a large rubboard of substantially the same diameter as the interior of the tub, having low rubbing cleats on its under surface; this rubboard was slidably mounted in the cover so that in operation it would slide down freely and engage the entire surface of clothes, compress them into a mass in the water, and scrub and rub their exterior surfaces between this rubboard and the corrugated interior of the tub (EH 172-3, 178, 193, 206-7, 209-212, 266-7, 273, 281, 303-8; GE 27-30, 367-8, 374, 347-8, 350, 81, 88, 521-5, 508-510); (the device shown in the Davis patent (EH 918; GE 1056) and those made under it by the 1900 Company on which defendants so largely rely are of this type and operate in this way (EH 173, 301-8; GE 367, 88, 510, 529), notwithstanding defendant's contentions to the contrary); **the peg dolly type** having pegs which slide down into and penetrate the mass of clothes and drag them back and forth against corrugations in the tub (EH 192, 193, 267, 268; GE 82, 119, 122, 502); **the oscillating type** which tumbles the fabrics against ribs or corrugations in the tub (EH 451; GE 82); **the cylinder type** having a like purpose (EH 151-2; GE 83); and **the vacuum cup type** which compresses the fabrics and squeezes them against the tub bottom (EH 151-2; GE 24, 83); 100 F. (2d) 218, 220, C. C. A. 8.

For more than a century constant attempts were made by numerous inventors, including Snyder, to improve each of these types of machines, and especially the peg dolly type which had by far the largest sales, and there was much litigation over these improvements. See cases *infra,* (pp. 27-8), and opinions and findings of Judges Byers (EH 68, App. 3; P. E. 54, Of. EH 341; GE 849, Of. 500) and Otis (App. 33) and opinion of Eighth Circuit Court of Appeals affirming latter (100 F. (2d) 218).

Up to the time of the Snyder invention household washings were done either by hand or in machines of the above types—

> "by mechanical means which rubbed, scrubbed, pounded, squeezed, compressed or dragged them around in the tub as a mass, in simulation of the manner in which clothes have for years been washed by housewives on the old fashioned washboard." (Finding 4 of Judge Otis, GE 24, App. 33, Judge Byers, 11 F. Supp. 743, 744, EH 72; 100 F. (2d) 218, 220, C. C. A. 8; EH 289, 273, 266-7; GE 347-50, 368, 261.)

Snyder was thoroughly familiar with these old types of machines and the difficulties incident to their use, and made many attempts to improve their operating mechanisms, without substantial success (EH 559-562; GE 87-9, 119-124). (See Chart II at end of brief.) As a result, he finally came to realize that if these difficulties were to be eliminated, this must be done with a machine constructed and operating in a radically different way from any that had preceded it (EH 640-2; GE 123-4, 457-461; Findings 4-6 of Judge Otis, GE 24-5, App. 33-4).

Simultaneously with working on attempted improvements in the dolly type of machine which The Maytag Company had been making and selling since 1908,

Snyder in May, 1920, made a machine embodying the invention of his patent in suit, in the experimental department of plaintiff and operated it there. During the same month he sent it to the home of Mrs. Ellingsworth, a washer woman living in Newton, Iowa, who repeatedly did washings in it (EH 562-7, 570, 621-3; GE 423-5, 124-6, 453-4, 433-5, 458). This machine was there successfully used for a considerable period of time. Thereafter Snyder carried on experiments to put his invention in the best form for commercial use. As a result of this work, and demonstrations of his new washer in the summer and fall of 1921, in December of that year he finally secured the consent of the officials of The Maytag Company to make four of these machines which started the commercial production. That has been followed by extensive sales since (EH 631-2, 628, 155; GE 126-8).

The Washing Machine of the Snyder Patent.

In this machine Snyder discarded all of the various mechanisms which had theretofore been used for mechanically rubbing and scrubbing the clothes, and constructed an entirely new machine (Judge Byers, 11 F. Supp. 743, 745; EH 72; GE 850-2, App. 3-5).

In making it* (EH 657-670; GE 563-579) he used a tub *1* with a smooth interior surface free from rubbing projections. The tub *1* is mounted on legs *2*. He made an **imperforate water impeller having a circular base** *54* provided with a central dome *53* and plurality of **upwardly projecting blades** *56* each of which is of **substantial height and lateral area.** He made his **impeller of substantially less diameter than the interior of the body of his tub.** He placed this **impeller in the bottom of his tub,** in such a way

* **See Chart I at end of this brief.**

that its **margin was equally spaced a substantial distance away from the upwardly projecting portion** *49* of the tub, to permit the **vigorously impelled** currents of water to flow **outwardly then upwardly** along the wall of the tub and then inwardly and downwardly to the impeller, first in one and then in the opposite direction from the impeller, and to provide **a free roll over zone** for the clothes between it and the interior of the tub, as they were **freely moved about in and suspended by the vigorous water action** created by the impeller. He mounted the impeller for operation **in a fixed plane adjacent the bottom** *46* of the tub on a reciprocating drive shaft *52* which extended downwardly from its central dome *53* through the bottom of the tub. He then provided a pinion *65* on the lower end of his reciprocating drive shaft and connected this to a motor *5* by a rack bar *81*, whereby the impeller could be **rapidly reciprocated.** By thus mounting his water impeller **at the bottom of the tub,** and **so forming, constructing and positioning** it with respect to the tub, and **operating it at a much higher speed** than theretofore used in washing machine practice, he was enabled for the first time **to wash clothes clean, by the vigorous water action created by his water impeller, while suspended by the action of the water,** in an amazingly short time, and without the wear and tear incident to their use and to wash even the most delicate fabrics without injury.

"The construction, positioning and arrangement of the impeller with respect to the tub is such that each blade of the impeller and its adjacent portion of the impeller base when rapidly reciprocated will simultaneously drive the cleansing fluid in one and then an opposite outward upward circulatory direction toward and around the clothes, and act in cooperation with the interior of

the tub to cause violently flowing opposed currents of liquid to meet and flow inwardly and downwardly toward the central portion of the tub, and substantially suspend the materials in the fluid while being washed . . . " the clothes are "kept well distributed throughout the tub, without braiding, and acted upon as individual pieces as they were rolled over and over, by the vigorous rapidly moving water currents created by the impeller." (Finding 3 of Judge Otis, GE 23, App. 31; C. C. A. 8, 100 F. (2d) 218, 219-221; Judge Byers, 11 F. Supp. 743, 745, EH 72, 73; EH 159-161, 178-181, 212, 272-3, 227-8, 326-7; GE 144-7, 170-3, 569-573.)

Each of the claims in suit is limited to the impeller mounted at the bottom of the tub, either by exact terms (claims 23 and 29) or by the description of the water flow (claim 26), and by other limitations disregarded by the Second Circuit Court of Appeals, as will be later pointed out.

Plaintiff's principal business, continuously since early in 1922, has been the manufacture and sale of washing machines at Newton, Iowa, embodying the Snyder invention. It has sold approximately three million of them (EH 155; Judge Otis, Finding 13, GE 26, 80-1, 128, App. 35; Judge Byers, 11 F. Supp. 743, 745; EH 73).

For several years following plaintiff's first manufacture and sale of this new machine, which it called the **Gyrafoam** and **Gyrator** washer, **competitors selling old type machines ridiculed it to the trade and called it a "freak" and "ensilage cutter"** due to the design and shape of the impeller with its blades of substantial height and lateral area which they insisted would tear and mutilate the clothes at its high speed of operation (EH 155, 199, 324, 634; GE 95, 129; Judge Byers, 11 F.

Supp. 743, 745-6; EH 74; GE 852; Judge Otis' Finding 6, GE 25, App. 34).

"Contemporaneously," with competitors making these derogatory statements, "the Easy Company, acquired Maytag machines for the information of their experimental staffs." After defendants put their infringing machines upon the market, they made the same claims for these machines in pamphlets issued by them as were made by The Maytag Company. "That condition . . . continued to prevail down to the time when" the Brooklyn Edison suit was started. "The assertions in all the advertising matter . . . are flamboyant and unrestrained to the effect that the . . . Easy and Thor [Hurley] washing machines, do their work by water action, etc." (Judge Byers, 11 F. Supp. 743, 745-6; EH 74-5.)

In the *General Electric* case the trial court found that before defendant "appropriated the Snyder invention and placed it upon the market in the form of the machines here charged to infringe" its "engineers and other representatives became thoroughly familiar with these machines through visits to the Maytag Company plant and its experimental department during this period" (Finding 12, GE 26, 550-1, App. 35), and that the advertisements issued in connection with the sale of the General Electric machines (substantially identical with the Easy, GE 243) emphasize that these machines are constructed and operate in the same way as the Snyder invention. (Findings 2 and 3, GE 21-4, App. 29-32.) See, *infra*, pp. 52-4.

Snyder's machine was so radically different from anything that preceded it that it has come to be known as the Gyrator type, distinguishing it from all previous types, which it has largely supplanted (C. C. A. 8,

100 F. (2d) 218, 219, 222; Judge Otis' Finding 8, GE 25, App. 34; EH 155, 328; GE 89-91).

At first it was difficult for plaintiff to convince housewives that the new machine would properly wash clothes as they were being constantly told by competitors that these machines would injure the clothes and that they would not wash them by water action as claimed by Snyder. It was especially hard to overcome this sales resistance, as housewives knew that clothes had always been washed in previous machines by rubbing, scrubbing, squeezing and jerking them back and forth through the water. During the early stages it was necessary to make home demonstrations (Judge Otis' Finding 7, GE 25, App. 34). The housewife was first shown how to operate the machine and it then was left in her home for one or more weeks' washing, and she was advised that if the machine **"doesn't sell itself, don't keep it"**—a slogan later adopted by the plaintiff (EH 154, 183; GE 90-1). This use by the housewife satisfied her that clothes could be washed in this machine in much less than half the time required to wash with previous machines, and that her clothes were washed clean in it, without injury even to the most delicate fabrics (EH 227-9, 247, 327, 272-4, 154, 178-80; GE 93, 28-9; Judge Otis, Finding 7, GE 25, App. 34). This was responsible for ever increasing sales.

Previous Contests Over Snyder's Invention.

1. **Interference proceedings during the pendency of the application which resulted in the Snyder patent.** Unruh secured patent No. 1,459,483, dated June 19, 1923 (D. E. B, EH 1030, Of. 344; D. E. 49, GE 1879, Of. 546), with full knowledge of the commercial success of

the "well known Maytag washing machine" then "on the market" embodying the Snyder invention. (See Unruh patent, lines 27-9, p. 1; EH 1031). An application for reissue of this patent was filed and put in interference with Snyder (D. E. C, EH 1194, Of. 347; P. E. 212, EH 835, 845, Of. 558; D. E. 35, GE 1427, Of. 278, P. E. 35, 859, 869, Of. 501). The Examiner of Interferences held that Snyder was the prior inventor (EH 835; GE 859). This decision was affirmed by the appellate tribunals of the Patent Office and by the Court of Customs and Patent Appeals (*Unruh* v. *Snyder,* 49 F. (2d) 1038). This contest delayed the issuance of the patent for over six years. (Finding 9, Judge Otis, GE 25, App. 34.)

> "The consideration given the Snyder invention and application by the various tribunals of the Patent Office and the Court during these [interference] proceedings and the unusual strain and stress of this searching process strengthens the usual presumption arising out of the issue of a patent."* (Findings 16, Judge Byers, App. 7; Judge Otis, Finding 11, GE 26, App. 35; 11 F. Supp. 743, 746.)

2. **Brooklyn Edison Case.** In March, 1933, plaintiff brought suit for infringement of claims 23, 26 and 38 of the Snyder patent against the Brooklyn Edison Company, which was engaged in the sale of "Thor" (Hurley Machine Company) and "Easy" (Easy Washing Machine Corp.), washing machines. Defendant set up some seventy-nine prior United States and foreign patents, publications and alleged prior users

*** The strenuous contest in the Patent Office and courts prior to the issuance of the patent greatly strengthens the usual presumption of patentability arising out of the issuance of the patent. Hildreth v. Mastoras, 257 U. S. 27, 32; Radio Corp. v. Radio, 293 U. S. 1, 7; Hartford v. Obear, 39 F. (2d) 769, 777, C. C. A. 8.**

and inventors as anticipations of the Snyder invention in its original and amended answers. It consumed fifteen days of the trial court's time, over plaintiff's protest, in offering expert testimony concerning the Snyder and prior patents and with proof concerning one alleged prior inventor (Altorfer), to say nothing of the rest of its evidence. That testimony, together with the exhibits offered in connection with it, used about twelve hundred pages of the voluminous record on appeal. This testimony was abandoned by defendants in the *Easy Hurley* cases. Judge Byers after hearing the testimony and witnessing actual washings in the Snyder machine and demonstrations of machines purporting to represent the prior art relied upon, sustained the action of the Patent Office in issuing the Snyder patent, and held claims 23, 26 and 38* valid and infringed.

Disregarding the findings of the various tribunals of the Patent Office, the Court of Customs and Patent Appeals, those of Judge Byers and his "carefully wrought" opinion (11 F. Supp. 743), that Snyder had made a real invention over the prior art, the Court of Appeals for the Second Circuit, in an opinion by Judge Manton, held these claims invalid (86 F. (2d) 625), in view of the three alleged prior devices here principally relied upon, *i. e.:*

(a) The machine of the Davis patent No. 1,240,826, September 25, 1917 (D. E. 3, EH 918, Of. 351, D. E. 2A, Of. EH 351, P. E. 16, Of. EH 341; D. E. 13, GE 1056, Of. 176, D. E. 27, Of. 338, P. E. 47, 48, Of. GE 535).

*** Method claim 38 upon which the Court of Appeals for the Second Circuit largely based its opinion was promptly disclaimed, and thus is not involved here (EH 46; GE 12).**

(b) The machine of the Doughty & Davis patent No. 1,496,305, June 3, 1924 (D. E. 5, EH 932, Of. 356, D. E. 4, Of. EH 355; D. E. 13, GE 1040, Of. 176; D. E. 29, Of. GE 338).

(c) The machine of the Jardine British patent No. 18,202 of 1891 (D. E. B, EH 937, Of. 344; D. E. 13, GE 1047, Of. 176).*

In doing this the **Second Circuit Court of Appeals, without permitting demonstrations** (Opinion, Judge Otis, GE 557, App. 26), **completely disregarded the trial court's findings—**

(1) As to the construction and operation of the Snyder invention (Findings 7 and 8, Judge Byers, GE 850-1, App. 3-4; 11 F. Supp. 743, 745, EH 72-3).

(2) That none of the machines relied upon by defendant to invalidate the Snyder patent utilized the invention of that patent or its operation, and that the Snyder machine operated in an entirely different manner from those machines (11 F. Supp. 743, 750-755; EH 87-102).

(3) That Snyder made his invention prior to any date established for the Doughty & Davis machine (11 F. Supp. 743, 757, Finding 26, GE 855, App. 10; see also Judge Otis, Finding 27, GE 37-8, App. 50-52).

(4) That the asserted claims of the Snyder patent were valid (11 F. Supp. 743; EH 68, App. 12-3).

The portion of the decree (EH 36, 115, App. 13) holding that the asserted Snyder claims were infringed

*** Each of these patents and many of the others set up in defendants' answers were considered by the Patent Office and invention by Snyder was held over them. Doughty & Davis was removed as a reference as Snyder swore back of the filing date of that patent. (EH 1205, GE 1449; 11 F. Supp. 743; see also 100 F. (2d) 218, 221, C. C. A. 8, and Finding 27, Judge Otis, GE 37-8, App. 50-52).**

was not disturbed by the Court of Appeals. Certiorari was denied by this Court, 300 U. S. 662.

3. **The cases of Maytag vs. Easy and Hurley** (here as Nos. 76 and 77), filed in the Southern District of New York, were pending when the Court of Appeals for the Second Circuit rendered its opinion in the *Brooklyn Edison* case, November 30, 1936. Due to the fact that the decision of the Court of Appeals for the Second Circuit in the *Brooklyn Edison* case would be controlling on the trial court in these cases (Nos. 76 and 77), as defendants' machines were substantially the same as two of those (Easy and Thor) involved in that case, plaintiff sought a postponement of the cases until after an adjudication could be had in the then pending suit against *General Electric* in the Western District of Missouri, where the same claims of the Snyder patent and substantially similar machines were involved. This was to enable the plaintiff to "vindicate its position" with respect to the Snyder patent and invoke the jurisdiction of this Court, if the decision in the Eighth Circuit were favorable to it, under the decisions of this Court in the recent cases of *Ensten* v. *Simon, Ascher & Co.*, 282 U. S. 445, and *Triplett* v. *Lowell*, 297 U. S. 638. The postponement was refused and plaintiff was compelled to proceed with the trial of cases here as Nos. 76 and 77. This took place May 17 and 18, 1937, and resulted in a decision from the bench based solely upon the previous decision of the Second Circuit Court of Appeals in the *Brooklyn Edison* case (Findings 6 and 7, EH 1414, 1437). These decrees were affirmed April 4, 1938 (96 F. (2d) 87) by the Second Circuit Court of Appeals. Its opinion was written by Judge Manton who also

wrote the opinion in the *Brooklyn Edison* case. This was done with full knowledge of the decision and findings of fact (Jan. 26, 1938) of the District Court for the Western District of Missouri (App. 24-54) which had held the same claims of the Snyder patent valid and infringed in accord with the decision and findings of Judge Byers in the *Brooklyn Edison* case. Following the denial by this Court of the petition for writ of certiorari in Nos. 76 and 77 on October 10, 1938, petitioner applied to the Second Circuit Court of Appeals for a stay of mandate therein pending a decision by the Eighth Circuit Court of Appeals in the *General Electric* case. This application was granted by the Court, Judges Learned Hand, Swan and Augustus Hand sitting, on October 27, 1938.

4. **The suit of Maytag vs. General Electric Supply Corporation** (here as No. 661) was filed in the District Court for the Western District of Missouri, February 5, 1937, before the certiorari had been denied by this Court in the *Brooklyn Edison* case (February 15, 1937). It was on trial before Judge Otis during the entire week of November 29, 1937, and resulted in a decree holding claims 23, 26 and 29 of the Snyder patent valid and infringed by the General Electric machines there and here involved, which are substantially identical with those involved in the *Brooklyn Edison* and the Easy-Hurley cases. Judge Otis carefully considered the opinion of Judge Manton in the *Brooklyn Edison* case, but approved and adopted Judge Byers' "carefully wrought"* opinion, after hearing the testimony and witnessing numerous demonstrations of plaintiff's, defendant's and the prior art machines principally relied upon, includ-

* Judge Otis' opinion (GE 555, App. 25).

ing Davis, Doughty and Davis, and Jardine† (GE 242). On plaintiff's application the Court of Appeals for the Eighth Circuit advanced the hearing of the appeal and on December 15, 1938, affirmed the decree of the trial court (100 F. (2d) 218). This was after the Court of Appeals for the Second Circuit had rendered its opinion in the *Easy* and *Hurley* cases. The Eighth Circuit Court of Appeals following *Triplett* v. *Lowell,* 297 U. S. 638, 645; 100 F. (2d) 218,

> "determined for itself validity and ownership of the claims asserted notwithstanding [the] prior adjudication of invalidity of some of them."

and gave consideration to the following statement of this Court, and the cases cited by it, in that case (p. 643):

> "This court has several times held valid the claims of a patent which had been held invalid by a circuit court of appeals in an earlier suit brought by the same plaintiff against another defendant. *Expanded Metal Co.* v. *Bradford,* 214 U. S. 366; *Diamond Rubber Co.* v. *Consolidated Rubber Tire Co.,* 220 U. S. 428; *Abercrombie & Fitch Co.* v. *Baldwin,* 245 U. S. 198."

When the tests applied by this Court in the cases thus cited are applied to the instant cases, it seems clear that the various tribunals of the Patent Office, Judge Byers, Judge Otis and the Eighth Circuit Court of Appeals were right in holding that Snyder made a real contribution to the art which amounted to invention, for it satisfies the tests of invention on which this Court relied to sustain the patents before it in the cases referred to. See cases under Point IV, *infra,* p. 37.

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† **All of these were considered by the Patent Office, except Hermance and Runkle, which held that "none of these patents showed or described the Snyder invention covered by the claims in suit." 100 F. (2d) 218, 221.**

Findings of Fact and Conclusions of Law.

The fundamental error of the Court of Appeals for the Second Circuit lay in deciding the *Easy-Hurley* cases on the authority of its previous decision in the *Brooklyn Edison* case where, contrary to the decisions of this Court,* it completely disregarded the findings of the trial court (Judge Byers)—

(a) As to the operation of the Snyder invention;

(b) That none of the machines of the prior art utilized the Snyder invention or operation, and that each operated in an entirely different manner;

(c) That Snyder made his invention prior to any date established for Doughty & Davis.

Old and Largely Abandoned Types of Washing Machines.

In order to appreciate the Snyder washing machine invention and what it accomplished over machines theretofore upon the market, it is necessary, in view of the position taken below by defendants, and adopted by the Second Circuit Court of Appeals, to depict more

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*** "Considering that a patent has been granted to the plaintiff the case is preeminently one for the application of the practical rule that so far as the finding of the master or judge who saw the witnesses 'depends upon conflicting testimony, or upon the credibility of witnesses, or so far as there is any testimony consistent with the finding, it must be treated as unassailable,' Davis v. Schwartz, 155 U. S. 631, 636. The reasons for requiring the defendant to prove his case beyond a reasonable doubt are stated in the case of The Barbed Wire Patent, 143 U. S. 275, 284."**

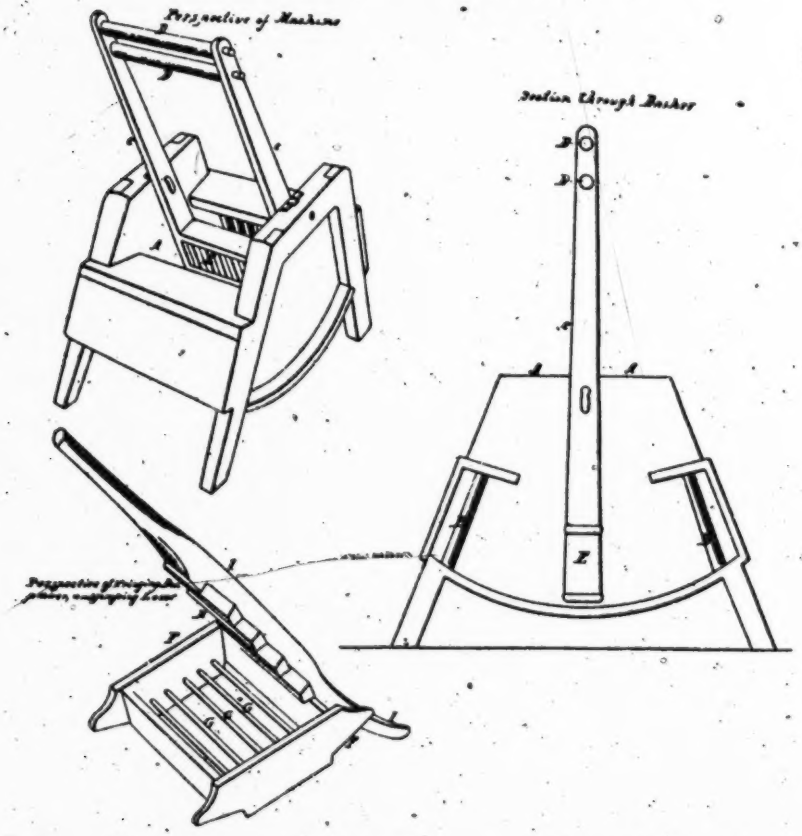
Adamson v. Gilliland, 242 U. S. 350, 353.
Davis v. Schwartz, 155 U. S. 631.
Mason v. United States, 260 U. S. 545, 556.
See also cases under Point I, infra, p. 35.

fully the various obsolete types of washing machines which preceded it. As we have already stated, these may be generally classified as: **Scrub** or **Rubboard, Dolly, Oscillator, Cylinder** and **Vacuum cup.**

(a) The Old Fashioned Washboard (P. E. 5, EH 677, Of. 152; P. E. 6-O, GE 637, Of. 83).

Has been familiar to most households for years (see cut following). In washing clothes on it the housewife grasped clothes with her hands and rubbed them up and down and squeezed them over the corrugations on the washboard. Housewives used them to wash out the more soiled parts of clothes after they were inefficiently washed in the old type machines (EH 246, 225, 178; GE 122, 83) hereinafter referred to.

(b) S. Tucker, Washing Machine, Jan. 12, 1809.
(P. E. 33; GE 811, Qf. 500.)

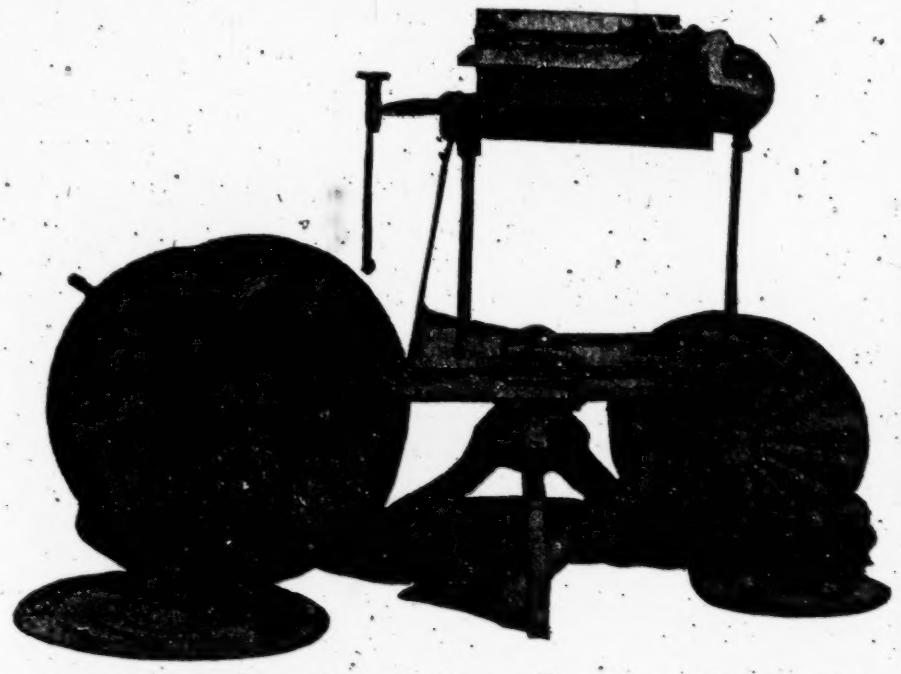


The Tucker patent shows one of the oldest forms of mechanical washing machines. In his machine a removable pivotally mounted dasher C, having a series of vertical bars E at its lower end, was first forced into the clothes and then swung back and forth by hand, dragging the clothes first in one and then the opposite direction, compressing, squeezing and rubbing them between the lower end of the dasher and the bars or rounds B on the opposite sides of the tub. In this machine as in all types of household washing machines which preceded the Snyder invention, "washing was done by mechanical means which rubbed, scrubbed, pounded, squeezed, compressed or dragged them [the

clothes] around in the tub as a mass, in simulation of the manner in which clothes have for years been washed by housewives on the old-fashioned washboard." (Finding 4, Judge Otis, GE 24, App. 33.)

The rocker scrubber type following the general construction of the Tucker patent was made and sold commercially for years. It is shown in P. E. 5, EH 678-9, Of. 152; P. E. 6-A, GE 609, Of. 83.

(c) The Rubboard Type With Oscillating Tub. (1900 Co. Machine; P. E. 45, EH 767, Of. 171, 484; P. E. 19-1, GE 719, Of. 304.)



In this rubboard type there was an oscillating tub having radially arranged ribs on the interior of its bottom. **Slidably** mounted **beneath the cover** of the tub **was a wooden rubboard** of substantially the same diameter as the interior of the tub having **radially arranged rubbing ribs on its under surface.** This rubboard was held against oscillation but **freely slidable**

up and down in the tub. In operation (the tub was oscillated by hand or power), the rubboard slid down, engaging and compressing the clothes into a mass, and dragging, squeezing and rubbing them between the under surface of the rubboard and the ribbed bottom of the tub. (EH 379-80, 483; GE 303-4, 332-3, 345-6, 81.)

The 1900 Company made and sold this type of machine for a number of years prior to its being abandoned. (GE 303-4.)

(d) The Rubboard Type Having A Vertically Movable Rubboard.

THE DIETZ RUBBOARD POWER WASHER.
(P. E. 28, EH 727, Of. 171; P. E. 6-C, GE 613, Of. 83.)

"The dasher in this machine, you will notice, is a large circular **rubboard**, covering the entire circumference of tub. It has large nuckles which gently rub the clothes while carrying them through the water." "The dasher is supposed to do the work and therefore should come in contact with the clothes."

(D. E. 2A, EH Of. 351; D. E. 27, GE Of. 338) 1900 COMPANY'S FORM 1 WASHER MADE UNDER THE DAVIS PATENT #1,240,828.

The undisputed testimony shows that these washers are of the old abandoned rubboard type. Each has a large rubboard which in operation slides down, compresses the clothes, and rubs and drags them against the corrugated interior of the tub. (EH 302-8, 312, 371, 377, 173; GE 367-8, 374, 349-50.)

G. L. DAVIS
AGITATOR FOR WASHING MACHINE
Application filed Feb. 29, 1916
1,240,828 Patented Sept. 25, 1917

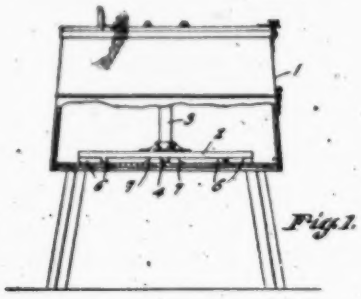


Fig. 1.

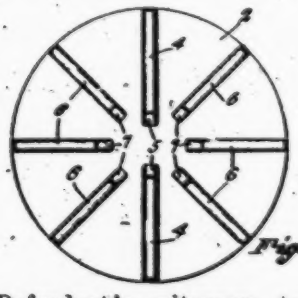


Fig. 2.

Defendant's witnesses testified that the 1900 Company's washers (shown in the cut at the left), embody the construction of this Davis patent (EH 351-3, 375; GE 359-60).

In view of defendants very great reliance upon the fallacious description of the operation of the machine shown in the Davis patent No. 1,240,826 to defeat the Snyder machine claims in suit, and its attempt to arbitrarily lift that machine out of the rubboard class, in which it clearly belongs, and put it into the same class as Snyder's gyrator machine, we desire to call especial attention to the statements of **defendant's witness Behan** who testified (GE 367, 374), as did other witnesses, that the washers made by the 1900 Company in accordance with the Davis patent are "substantially identical" in "construction and operation" with the abandoned rubboard type, like Dietz shown in the cut *supra,* p. 23, each of which has a "large circular rubboard, covering the entire circumference of the tub" which "is supposed to do the work, and therefore should come in contact with the clothes" (EH 727, 173, 182, 302, 318-9; GE 367, 374, 349-50).

In the machines made by the 1900 Company under the Davis patent, as well as in all other machines of the rubboard type, the interior of the bottom and/or sides of the tub were corrugated to form a rubbing surface like the old fashioned washboard (EH 375, 371-2, 349, 266-7, 234, 172-3, 182; GE 346-7, 367, 83-4). **Slidably mounted in the cover at the top of each of these rubboard machines** was a shaft on which **a rubboard of substantially the same diameter as the interior of the tub** was attached, so that when the cover was closed **the rubboard would slide down and compress the clothes beneath it into a mass.** When the rubboard was put into operation it rubbed and scrubbed the exterior surface of the mass of clothes and dragged them back and forth against the rubbing corrugations on the interior of the tub (EH 302-6, 311-2, 472-3, 1317; GE 347-8, 368, 350, 521-4).

As stated by defendant's expert Taggart in the *Brooklyn Edison* case, and in the *General Electric* case, in the 1900 Company's machines made under the Davis patent, as in all rubboard type machines, the clothes were washed "by rubbing, pounding, squeezing and dragging" (100 F. (2d) 218, 222; GE 261-2). **The claim of the Davis patent specifically calls for the disk** [rubboard] **being "freely movable vertically"** (EH 920; GE 1058). In this respect as in all other details of construction and operation the Davis machine was substantially identical with all rubboard type machines.

In each of the rubboard type machines including that of Davis the wooden rubbing cleats were low—only about 7/8-inch high (EH 372, 375, 400; GE 308, 357)—and rounded (GE 348) to minimize the wear and tear on the clothes. It was customary to put as many clothes into the tub as it would hold to enable the rubboard to rub and drag them about in the water (EH 312, 224, 306, 214; GE 353-4, 372, 84). These rubboard machines were operated at the low speed of about 40 oscillations per minute and necessarily so, for if attempted to be operated at a greater speed, they would seriously injure and damage the clothes while rubbing and dragging them back and forth against the corrugated interior of the tub (EH 388-9, 400; GE 502-4, 367).

It took about 30 minutes to wash a single tub full of clothes (EH 224-5, 199; GE 122, 90). The clothes had to be frequently turned inside out in order to have all of their dirty surfaces engaged by the rubboards (EH 224-5, 206, 228, 245-6, 272, 189-90; GE 84, 122). These machines were so inefficient that frequently the housewife was required to scrub the dirtier parts of clothes, such as wrist bands and collars, by hand on the old

fashioned washboard after they had been washed in this type of machine, or on a washboard furnished by the manufacturer and secured to the interior of the tub in a manner shown in P. E. 5 (EH 683, Of. 152, 225, 246, 178); P. E. 6-B (GE 611, Of. 83, 81-2).

The Davis and other rubboard machines were abandoned shortly after the Snyder machine came on the market (EH 351-2, 359, 376-8; GE 349, 337, 374-6, 325).

(e) The Peg Dolly Type (P. E. 5, EH 685, Of. 152; P. E. 6-E, GE 617, Of. 83).

This type derived its name from the peg dolly in it which resembled the old fashioned milking stool, and consisted of a small wooden disc having depending pegs or legs for penetrating and grabbing the mass of clothes and dragging them back and forth through the water against scrubbing or rubbing corrugations formed on the interior or side walls and across the bottom of the tub as the dolly was oscillated by a shaft carried on the hinged cover of the tub. This dolly was **freely slidable up and down** to adjust itself to pene-

trate and grab the clothes and drag them against the corrugated interior of the tub (EH 150-2, 192-3, 252-4, 267-8; GE 82, 119, 121-23, 501-2).

The dolly machines were at first operated by hand, and later by power. In this type of machine the clothes were first dragged in one direction and then in the opposite direction against the corrugated interior of the tub. The reversal of the movement of the dolly even when operated at slow speed, caused a severe jerk and strain on the clothes at the end of the movement in each direction, and likewise exerted a strain on the dolly pegs. This action was very hard on clothes and delicate fabrics could not be safely washed in them (EH 151-2, 253, 267; GE 502, 82, 121-3). Care was taken in the construction of these various dolly machines to insure the dollies operating at a low speed, for operating them at high speed would greatly increase the damage to clothes incident to their use (EH 152,; GE 502, 82, 121-2).

Despite the serious injury done to the clothes, the peg dolly machines prior to 1922 had by far the largest sale of any on the market* and they did the most effi-

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*** The wide use of these "peg dolly" machines and the struggle to improve them, is shown by the testimony (EH 150-2, 559-62; GE 84, 87-9, 119-124), and by the extensive litigation over various kinds of mechanisms for operating them, in each of which these patents were sustained:**

Under the Schroeder patent No. 535,465, of March 12, 1895, for converting a continuous rotary motion of the crank wheel into a rotary reciprocating movement of the peg dolly:

Benbow-Brammer litigation, 98 Fed. 880; 106 Fed. 918 (C. C. A. 8); 168 Fed. 271 (C. C. A. 8); 132 Fed. 614; 157 Fed. 559; 144 Fed. 429; 158 Fed. 627; 166 Fed. 114 (C. C. A. 2); 170 Fed. 965 (C. C. A. 7).

Under the Coffield patent Reissue No. 12,719, of November 12, 1907, for a water motor for operating peg dolly machines:

cient washing of any prior to the Snyder invention (EH 152, 252; GE 120, 82, 89). In the use of these machines the housewife had to open the cover and with it lift the operating dolly and turn the clothes in the hot water with an old fashioned clothes stick so as to present parts not rubbed to the corrugated interior of the tub for further washing (EH 206; GE 121-2).

(f) The Oscillator Type (P. E. 5, EH 693-4, Of. 152; P. E. 6-J, K, GE 627-9, Of. 83).

This type (see cut next page) derived its name from the fact that the clothes were washed by being scrubbed on high spaced ribs or cleats in the bottom and ends of the tub as **the tub itself** was rocked **(oscillated)** back and forth. This tub was generally mounted on a horizontal axis and was usually longer than wide. The tub had **scrubbing and lifting ribs or cleats** extending longitudinally across its bottom and

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Wayne Mfg. Co. v. Coffield Motor Washer Co., 209 Fed. 614 (C. C. A. 8).

Wayne Mfg. Co. v. Coffield Motor Washer Co., 227 Fed. 987 (C. C. A. 8).

Howe Machine Co. v. Coffield Motor Washer Co., 197 Fed. 541 (C. C. A. 4).

Under the Victor patent No. 863,120, of August 13, 1907, for a gearing mechanism for use in connection with peg dollies:

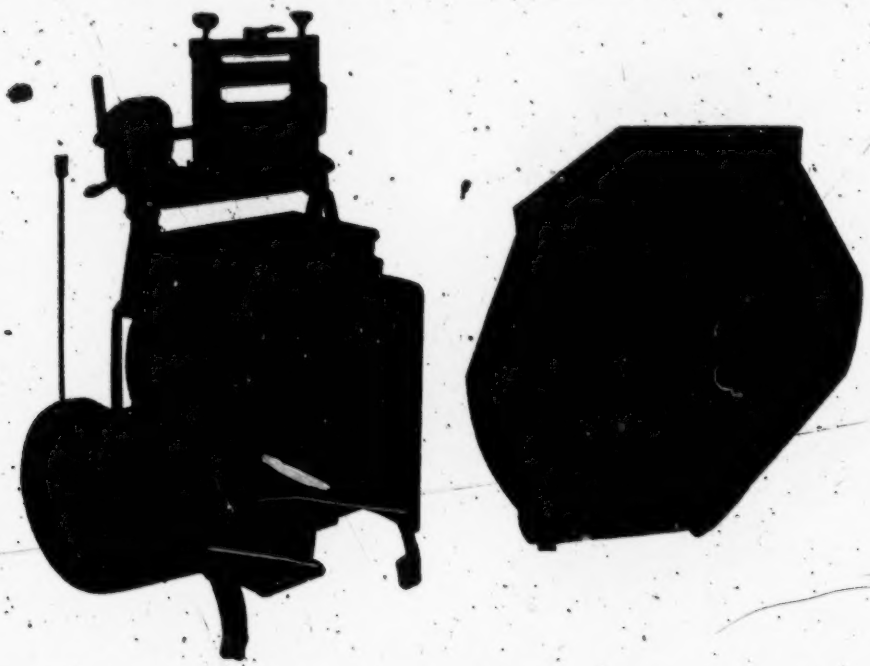
Horton Mfg. Co. v. White Lily Mfg. Co., 213 Fed. 471 (C. C. A. 7).

Iowa Washing Machine Co. v. Saecker, 230 Fed. 117 (C. C. A. 7).

Under the Stocking & Mendenhall patent Reissue No. 12,733, of December 17, 1907, covering a lever operated balance wheel mechanism to be used in connection with peg dollies:

Iowa Washing Machine Co. v. Montgomery Ward & Co., 227 Fed. 1004. Affirmed, 234 Fed. 88 (C. C. A. 2).

sides. When water and clothes were placed in the tub and it was oscillated on its horizontal axis, the mass of

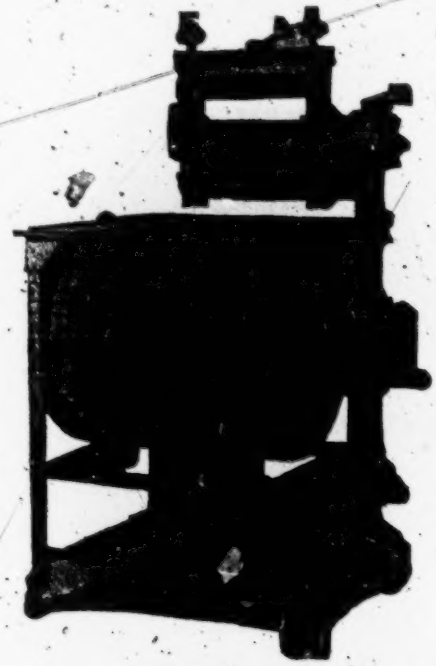


clothes was tossed back and forth, and was scrubbed over the scrubbing and lifting cleats or ribs in the bottom and sides of the tub (EH 151; GE 82, 369).

(g) The Cylinder Type (P. E. 5, EH 695-6, Of. 152; P. E. 6-L, M, GE 631-3, Of. 83).

This cylinder type here shown following derived its name from the fact that the clothes were washed in a cylinder which was rotated first in one direction and then in the opposite direction or rotated continuously in one direction in a tub of water. The cylinder was mounted on a horizontal axis within a tub having a semi-circular bottom. It was generally made of sheet metal and had a large number of perforations throughout its entire circumference through which the water passed. A segment of the cylinder was made removable to form a cover which could be opened so that the

clothes could be put into or removed from the cylinder. On the inside of the cylinder there was a series of



spaced ribs or cleats. When clothes were placed in the cylinder and the cylinder operated, the clothes were lifted and tumbled about as a mass so that the outside of the ball or wad of clothes was rubbed and scrubbed by the ribs or cleats as the cylinder was rotating (EH 151-2; GE 83).

The cylinder type machine had quite a sale prior to and for some years after the Snyder invention came upon the market. It has long since been abandoned. (EH 152; GE 371, 91, 131).

(h) Vacuum Cup Type (P. E. 5, EH 697, Of. 152; P. E. 6-N, GE 635, Of. 83).

This type derived its name from the fact that cup-shaped plungers called "vacuum cups" were used for pressing and squeezing the clothes between the plungers or cups and the bottom of the tub in washing them. A vertical shaft extended through the bottom

or top of the tub and upon its free end was mounted a series of these plungers suitably spaced apart and depending from outwardly projecting arms carried by the vertical shaft. Means were provided by which the shaft and "vacuum cups" moved up and down so that on the down stroke the clothes were engaged and pushed downwardly and squeezed between the cups and the bottom of the tub in the washing operation. As these cups were moved up and down they traveled slowly around the tub so as to engage other portions of the mass of clothes which were packed in the bottom of the tub and distributed their pressing, squeezing and forcing action over all the clothes. In order to put the clothes into or remove them from the tub, the cover had to be taken off and the "vacuum cups" removed from the tub (EH 151; GE 83).

The Easy Company and its predecessor, the Syracuse Washing Machine Corporation ("one of the largest manufacturers of washing machines in the field") made and sold its vacuum cup type of washer

exclusively for more than fifty years following 1877, and claimed it to be the "most effective washing method that is known" (P. E. 51; EH 772, Of. 323). The Easy Company commenced the manufacture and sale of its gyrator type machine charged to infringe in 1929. This was after representatives of the Easy Company found that the vacuum cup type could not successfully compete with the Maytag gyrator machine (EH 323-9).

Such was the condition of the commercial washing machine art at the time Snyder made his invention. **Judge Otis well summarized:**

(a) **With Respect to these Prior Art Machines** that (Finding 4, GE 24-5, App. 33):

> "In each of these types of machines the washing was done by mechanical means which rubbed, scrubbed, pounded, squeezed, compressed or dragged them around in the tub as a mass, in simulation of the manner in which clothes have for years been washed by housewives on the old-fashioned washboard.
>
> "Each of these types of machines were slow in operation, did not satisfactorily clean the clothes, the more dirty parts of which had frequently to be washed by hand on the old-fashioned washboard even after the long rubbing operation in the tub. In each of these machines, and especially with the peg dolly type, which was by far the most extensively used, there was ever present the danger of injury to the clothes and more delicate fabrics could not be washed with them without mutilation.
>
> "The difficulties incident to the operation of these machines and the ever present detriment to the clothes washed in them, had long been recognized generally and by Snyder for years prior to his invention. The evidence of Snyder's and plaintiff's experience with the dolly and cylinder types, and the prior patents before the Court, show the struggle to improve the operating mechanisms

of these various types of machines since 1809, but this did not relieve the difficulties inherent in the use of these old types."

(b) **With Respect to Snyder's Work and Invention** that (Findings 5, 6, 7, 8 and 13, GE 25-6, App. 33-5):

"Snyder well recognized the difficulties incident to and inherent in each of the old types of machines, and it was only after discarding completely the manner in which clothes were washed in them that he overcame the struggle for a successful machine which would wash rapidly, cleanly and without detriment to the clothes, and largely by water action, as distinguished from rubbing, scrubbing, pounding, squeezing, compressing and dragging the clothes much as they were rubbed on the old-fashioned washboard." (Finding 5.)

"As a result of Snyder's numerous experiments commencing in May of 1920, plaintiff put upon the market his new washing machine in February, 1922, and abandoned the sale of its previous peg and other dolly and cylinder type machines." (Finding 6.)

"Through demonstrations in homes and elsewhere, dealers and housewives became convinced of the superiority of the Snyder machine over previous types, that it would wash clothes in much less time than any of the previous types and without injury to them, and bought them at a higher price than the old types sold for." (Finding 7.)

This was in the face of "skepticism of dealers, housewives, the public generally, and the derision of competitors who were selling the old type machines in competition with it." (Finding 6.)

"Due to the inherent advantages of the Snyder invention as embodied in the plaintiff's machines, and the demonstrations and sale of them throughout the country, they have come to be recognized as a distinct type, now known as the 'Gyrator type'." (Finding 8.)

"The machine of the Snyder invention has had an unusual commercial record, plaintiff having sold approximately three million machines utilizing it." (Finding 13.)

These findings are in accord with the opinion and findings of Judge Byers (11 F. Supp. 743; P. E. 34; GE 849-57); they were affirmed by the Eighth Circuit Court in Appeals, 100 F. (2d) 218.

Specifications of Error.

In cases Nos. 76 and 77 petitioner, Maytag Company, insists that the Second Circuit Court of Appeals erred:

1. In failing to decree claims 23, 26 and 29 of the Snyder patent No. 1,866,779 valid; in holding them invalid over the disclosures of Jardine British patent No. 18,202 of 1891, Davis patent No. 1,240,826 of September 25, 1917, and Doughty & Davis patent No. 1,496,305 of June 3, 1924; in dismissing the bill and awarding costs to respondents; and in not reversing the decrees of the District Court with costs.

2. In affirming the decrees of the District Court upon the authority of its previous opinion in *Maytag v. Brooklyn Edison case* (86 F. (2d) 625), in which it failed to follow the findings of fact of the trial court that none of the machines of Jardine British, the Davis, and the Doughty & Davis patents, or the machines made under the latter two, operated in the manner disclosed and claimed by Snyder, and in failing to follow said Findings.

3. In failing to hold, as did the trial court on the same evidence in the *Brooklyn Edison* case, that Snyder reduced to practice and used the invention of his patent in suit prior to any disclosure or use of the machines disclosed in the Doughty & Davis patent

1,496,305, issued June 3, 1924, nearly two years after Snyder filed his application.

In case No. 661 respondent, Maytag Company, assigns no errors.

Petitioner, General Electric Supply Corporation, in its petition for certiorari to this Court presented the following questions:

(1) Whether claims 23, 26 and 29 of the patent in suit are valid or invalid.

(2) Whether claim 23, if valid, is infringed by the washing machine made and sold by petitioner.

(3) Whether the patent is wholly invalid and unenforceable by reason of respondent's neglect to either disclaim claim 39 or to make an effort to sustain it as valid in this suit.

POINTS AND AUTHORITIES.

Point I.

So far as the findings of fact of the judge who saw the witnesses depend upon conflicting testimony, or upon the credibility of witnesses, or so far as there is any testimony consistent with the findings, they must be treated as unassailable. *Adamson* v. *Gilliland*, 242 U. S. 350, 353; *Davis* v. *Schwartz*, 155 U. S. 631, 636; *Alabama Power Co.* v. *Ickes*, 302 U. S. 464, 477; *Esso, Inc.* v. *Standard Oil Co.*, 98 F. (2d) 1, 4, C. C. A. 8; *United States* v. *Nugent*, 100 F. (2d) 215, 217, C. C. A. 6; see also Rule 52 of the Rules of Civil Procedure for the District Courts of the United States (App. 58). This rule was ignored by the Second Circuit Court of Appeals.

It was adhered to by the Eighth Circuit Court of Appeals, which concurred in the findings of the District Court. Under such concurrence the findings of fact should not be disturbed unless clearly erroneous.

United States v. *Chemical Foundation,* 272 U. S. 1, 14; *General Pictures Co.* v. *Electric Co.,* 304 U. S. 175, 178.

Point II.

Judge Otis and the Eighth Circuit Court of Appeals were right in exercising their independent judgment in construing the Snyder patent in the General Electric case. *Triplett* v. *Lowell,* 297 U. S. 638, 645, and cases there cited.

Point III.

The presumption of invention arising from the grant of a patent must be overcome by the defendants beyond a reasonable doubt. "Not only is the burden to make good this defense upon the party setting it up, but his burden is a heavy one. . . " *Mumm* v. *Decker & Sons,* 301 U. S. 168, 171; *Radio Corp.* v. *Radio Engineering,* 293 U. S. 1, 7, and cases there cited. *Wisconsin Alumni Research* v. *Breon,* 85 F. (2d) 166, 167, C. C. A. 8. This presumption is greatly strengthened where as here Snyder's invention was subjected to the rigorous tests of a long interference proceeding, in which the question of its patentability and novelty were carefully considered; *Hildreth* v. *Mastoras,* 257 U. S. 27, 32; *Diamond Rubber Co.* v. *Consolidated,* 220 U. S. 428, 434; *Eibel Co.* v. *Paper Co.,* 261 U. S. 45, 60; *Hoeltke* v. *Kemp,* 80 F. (2d) 912, 919, C. C. A. 4; *Gordon* v. *Walcott Co.,* 32 F. (2d) 55, 57, C. C. A. 6; and the principal prior art patents relied upon by the defendants were considered by the Patent Office before the grant. *Chesapeake & Ohio Ry. Co.* v. *Kaltenbach,* 95 F. (2d) 801, 804, C. C. A. 4; *General Electric Co.* v. *Save Sales Co.,* 82 F. (2d) 100, 103, C. C. A. 6; *Nordberg Mfg. Co.* v. *Woolery Co.,* 79 F. (2d) 685, 687, C. C. A. 7.

Where, as here, two trial courts and a Circuit Court of Appeals have found that the Snyder invention was patentably novel, a holding beyond a reasonable doubt to the contrary is untenable upon the same record.

Point IV.

Snyder's invention fully satisfies all the tests of invention.

(a) It had success where others failed. *Loom Co.* v. *Higgins,* 105 U. S. 580, 591; *Barbed Wire Patent,* 143 U. S. 275, 283; *Hobbs* v. *Beach,* 180 U. S. 383, 393; *Potts* v. *Creager,* 155 U. S. 597, 609.

(b) It supplied a long felt want. The difficulties which plaintiff overcame in introducing Snyder's invention, in the face of derision of competitors, show that it was not obvious to them or any previous inventor. Difficulties once solved seem not to present any. *Diamond Rubber Co.* v. *Consolidated,* 220 U. S. 428, 434-5; *Eibel* v. *Paper Co.,* 261 U. S. 45, 60; *Hildreth* v. *Mastoras,* 257 U. S. 27, 34; *Loom Co.* v. *Higgins,* 105 U. S. 580, 591; *Krementz* v. *S. Cottle Co.,* 148 U. S. 556, 560, 561; *Hobbs* v. *Beach,* 180 U. S. 383, 393; *Carnegie Steel Co.* v. *Cambria Iron Co.,* 185 U. S. 403, 429, 430; *Expanded Metal Co.* v. *Bradford,* 214 U. S. 366, 381.

(c) The insistent demand for the Snyder invention over a long period of years following its introduction, its supplanting old types of machines, and the persistent and extensive use of it by defendant after notice of infringement, instead of using any of the prior art devices upon which it relies evidences invention. *Diamond* v. *Consolidated,* 220 U. S. 428, 441; *Dubois* v. *Kirk,* 158 U. S. 58, 63, 64; *Hoeltke* v. *Kemp Mfg. Co.,* 80 F. (2d) 912, 919, C. C. A. 4.

(d) The fact that none of the prior art devices embody the construction and operation of

Snyder and could not without radical changes be made to operate in the manner claimed by him, particularly as some of these had been in common use for years tends to establish invention. *Loom Co.* v. *Higgins,* 105 U. S. 580, 591; *Hobbs* v. *Beach,* 180 U. S. 383, 392; *Gordon Co.* v. *Walcott Co.,* 32 F. (2d) 55, 58, C. C. A. 6; *Blake Automotive* v. *Cross Mfg. Co.,* 13 F. (2d) 30, 32, C. C. A. 8.

(e) The discarding of previous types and the widespread use of the Snyder invention by housewives and washing machine manufacturers generally evidences invention. *Minerals Separation* v. *Hyde,* 242 U. S. 261, 270; *Temco* v. *Apco Co.,* 275 U. S. 319, 323; *Stead* v. *Kryptok,* 214 Fed. 368, 377, C. C. A. 8.

Point V.

The claims of the Snyder patent should be construed in the light of its drawings and specifications, and with respect to the novel features and advantages inherent in the invention. *Temco Co.* v. *Apco Co.,* 275 U. S. 319, 330, and cases there cited. This principle is applied in *Eibel Co.* v. *Paper Co.,* 261 U. S. 45, 65; *Smith* v. *Snow,* 294 U. S. 1; *Rubber Co.* v. *Goodyear,* 9 Wall. 788, 795; *Nordberg Mfg. Co.* v. *Woolery Machine Co.,* 79 F. (2d) 685, 692, C. C. A. 7; *Ottumwa Box Car Loader* v. *Christy,* 215 Fed. 362, 373, C. C. A. 8.

Where a claim is "fairly susceptible of two constructions, that should be adopted which will secure to the patentee his actual invention, rather than to adopt a construction fatal to the grant." *Smith* v. *Snow,* 294 U. S. 1, 14; and cases there cited.

Point VI.

Claims of the character of claims 23, 26 and 29 of the Snyder patent have been repeatedly passed on and held to be proper for the protection of the claimed invention. *Eibel Co.* v. *Paper Co.,* 261 U. S. 45, 65, 66,

and cases there cited; *Smith* v. *Snow,* 294 U. S. 1, 12, 14; *Hildreth* v. *Mastoras,* 257 U. S. 27, 32; *Continental Paper Bag Co.* v. *Eastern Paper Bag Co.,* 210 U. S. 405, 422; *Minerals Separation Ltd.* v. *Hyde,* 242 U. S. 261, 270; *Abercrombie & Fitch* v. *Baldwin,* 245 U. S. 198, 207; *Keystone* v. *Adams,* 151 U. S. 139, 142; *Morley* v. *Lancaster,* 129 U. S. 263, 268. The Court's attention is particularly called to the claims which are recited in these opinions for the purpose of comparing them with the Snyder claims in suit.

A new combination of old elements is patentable where new results are accomplished by that combination. *Seymour* v. *Osborne,* 11 Wall. 516, 542, 548; *Diamond Rubber Co.* v. *Consolidated Co.,* 220 U. S. 428, 443; *Krementz* v. *S. Cottle Co.,* 148 U. S. 556, 561; *Hoeltke* v. *Kemp Mfg. Co.,* 80 F. (2d) 912, 918, C. C. A. 4; *National Battery Co.* v. *Richardson Co.,* 63 F. (2d) 289, C. C. A. 6; *Tyra* v. *Adler,* 85 F. (2d) 548, 552, C. C. A. 8.

Point VII.

Infringement. Where the substance of an invention is taken, as by defendants here, infringement is not avoided by changes in detail of construction or by additions or improvements which do not deprive the device of its essential mode of operation. *Machine Co.* v. *Murphy,* 97 U. S. 120, 125; *Winans* v. *Denmead,* 15 How. 330, 335, 336; *Keystone Mfg. Co.* v. *Adams,* 151 U. S. 139, 145; *Hobbs* v. *Beach,* 180 U. S. 383, 398; *Hartford-Empire Co.* v. *Swindell Bros.,* 99 F. (2d) 61, 62, C. C. A. 4; *Chicago Pneumatic Tool Co.* v. *Hughes Tool Co.,* 97 F. (2d) 945, 947, C. C. A. 10.

Point VIII.

Defendants' statements in their trade circulars and advertisements are strong evidence against them both as to validity of the patent and its infringement. *Potts* v. *Creager,* 155 U. S. 597, 610; *Graham Paper Co.* v. *International Paper Co.,* 46 F. (2d) 881, 885-6, C. C. A. 8; *Mallinckrodt* v. *Squibb,* 6 F. Supp. 173, 175, aff'd. 69 F. (2d) 685, C. C. A. 8; *American Engineering Co.* v. *Underfeed Stoker Co.,* 41 F. (2d) 985, 986, C. C. A. 3.

Point IX.

Law of anticipation and patentability. The invention of the Snyder patent representing as it does a substantial improvement on what has preceded it, ought not to be defeated even though some of its elements were old, or because prior inventors may have approached, not reached, the same consummation, or because experts or casuists can read the invention out of prior patents which never disclosed it to the practical art. Reorganization of a prior patent or the piecing together of the constructions and operations of various prior patents in the light of the disclosure of the patent in suit cannot be indulged in to anticipate a meritorious invention.

"Knowledge after the event is always easy, and problems once solved present no difficulties." *Diamond Rubber Co.* v. *Consolidated,* 220 U. S. 428, 435. See also *Hobbs* v. *Beach,* 180 U. S. 383, 392; *National Battery Co.* v. *Richardson Co.,* 63 F. (2d) 289, 292, C. C. A. 6; *Peters Co.* v. *MacDonald,* 59 F. (2d) 974, 975, C. C. A. 2; *Gordon Co.* v. *Walcott Co.,* 32 F. (2d) 55, 58, C. C. A. 6; *Tyra* v. *Adler,* 85 F. (2d) 548, 552, C. C. A. 8.

Point X.

Prior use must be proved beyond a reasonable doubt. Defendants' attempt to anticipate the claims of the Snyder patent by prior use, fails utterly because there is no evidence of any prior device capable of producing the results accomplished by the patented device. The burden of proof rests upon the defendants to establish this and every reasonable doubt should be resolved against them. *Mumm* v. *Decker & Sons,* 301 U. S. 168, 171; *Cantrell* v. *Wallick,* 117 U. S. 689, 695; *Eibel Co.* v. *Paper Co.,* 261 U. S. 45, 60; *Barbed Wire Patent,* 143 U. S. 275, 285; *Drum* v. *Turner,* 219 Fed. 188, 196, C. C. A. 8; *United Shirt Co.* v. *Beattie,* 149 Fed. 736, 739, C. C. A. 2.

Point XI.

A patent, especially a foreign one (such as the Jardine British patent) is to be measured as anticipatory not by what might have been made out of it, but only by what is clearly and distinctly expressed in it. *Carson* v. *American,* 4 F. (2d) 463, 465, C. C. A. 9; *Wisconsin Alumni* v. *Breon,* 85 F. (2d) 166, 167, C. C. A. 8; *Naylor* v. *Alsop Process,* 168 Fed. 911, 920, C. C. A. 8; *Root Refining Co.* v. *Universal Oil Products Co.,* 78 F. (2d) 991, 994, C. C. A. 3; *Skelly Oil Co.* v. *Universal Oil Products Co.,* 31 F. (2d) 427, 431, C. C. A. 3. So considered, none of the prior patents relied upon by defendants can be regarded as anticipating the Snyder patent in suit.

Point XII.

The disclaimer filed as to certain claims of the Snyder patent is no admission or confession on behalf of the plaintiff that the claims disclaimed were anticipated or invalid. So long as the patentee continues in an attempt to vindicate its position with respect to other

claims held invalid and with respect to other claims of the patent not previously asserted, there is no necessity for filing a disclaimer of a claim which has never been litigated, especially where as here it is different from the claims disclaimed, and a trial court and a Court of Appeals have concurred in so holding, and there is no holding to the contrary. *Ensten* v. *Simon, Ascher & Co.,* 282 U. S. 445, 453; *Triplett* v. *Lowell,* 297 U. S. 638, 645, 646; *Sessions* v. *Romadka,* 145 U. S. 29, 40-42, *General Chemical Co.* v. *Standard Works,* 77 F. (2d) 230. 233, C. C. A. 4; *Permutit Co.* v. *Wadham,* 13 F. (2d) 454, 457, C. C. A. 6; *Nelson Co.* v. *Meyers & Bro. Co.,* 29 F. (2d) 968, 969, C. C. A. 6; *Metropolitan Corp.* v. *Cleveland,* 36 F. (2d) 477, 479, C. C. A. 6; *Sachs* v. *Hartford,* 47 F. (2d) 743, 747, C. C. A. 2; *United Chromium Co.* v. *International Silver Co.,* 60 F. (2d) 913, 915, C. C. A. 2.

ARGUMENT.

I.

The issue here is whether the **specific machine Claims 23, 26 and 29** of the Snyder patent are valid. **No method claim is here involved.***

In the courts below defendants confused the issue from the outset by discussing what they term "the method disclosed in the patent." Instead of calling attention to the very vital distinctions of construction and operation shown in the Snyder drawings, described in his specifications and included in each of the **machine claims** here involved, defendants disregarded these distinctions. The error of the Second Circuit Court of Appeals largely arose from adopting

*** That a method and an apparatus for performing it are distinct and separately patentable, see Leeds & Catlin v. Victor Talking Machine Co., 213 U. S. 301, 318.**

the erroneous statements in defendants' briefs both with respect to the Snyder invention and the alleged prior art.

We shall first specifically point out the Snyder construction and operation, so clearly disclosed in the drawings and specifications of his patent and covered by each of the claims in suit, and then show that this invention is not to be found in the prior art.

(a) Snyder's Invention, Patent and Machines Made Thereunder.

From 1906 to the time of his death in 1927, Snyder was connected with the plaintiff company (EH 149,559; GE 84). Prior to his making his gyrator invention, he was entirely familiar with the previous types of washing machines heretofore discussed. He experimented with and made several attempts to improve the old dolly type machines, which were sold by The Maytag Company from 1908 until it put his gyrator machine on the market (EH 559-562, 624-5; GE 84, 87, 119-24). (See Chart II at the end of this brief.)

With full appreciation of the manner in which these old machines operated by rubbing, pounding and squeezing the clothes, Snyder came to realize that if he were to eliminate the excessive wear and tear on the clothes incident to the use of previous types, he must make an entirely new machine and operate it in an entirely different manner from any that preceded it. (Findings 4-6, GE 24-5, App. 32-4, 123-4, 457-61; EH 640.)

In making his new machine Snyder for the first time solved a long existing and troublesome problem and supplied a long felt want.

Once Snyder conceived of washing clothes by water action as distinguished from the manner in which they were previously washed, he made and reduced to prac-

tice the invention so clearly disclosed in the drawings, specifications and the claims in suit. He found upon operating his new machine that he was able to wash clothes in it by the vigorous water action created in the tub and while they were suspended and freely moved about thereby, out of substantial contact with the mechanical parts of the machine, and that he was able to wash clothes thoroughly clean in a fraction of the time required to wash them inefficiently in any previous machines, and without injury to even the most delicate fabrics (EH 153-4, 227, 178-80, 190, 272-3; GE 124-7, 425-7, 90-3, Finding 3 of Judge Otis, 23, App. 31-2).

It was years after the thorough practicability of his machine had been fully established that each defendant began the sales of its infringing machines, in connection with the sale of which it made the same claims of operation as those fully disclosed and claimed by Snyder.

The Maytag gyrator type machine of the Snyder patent and the defendants' Thor (Hurley Co.), Easy Corp. and General Electric machines so closely resemble each other that a single description will answer for all (see Chart I at end of this brief). See Findings of Judge Byers (Findings 3 and 15, GE 850, 852, App. 2, 6); and Judge Otis (Findings 2 and 3, GE 21-4, App. 29-32; and opinion of C. C. A. 8, 100 F. (2d) 218, 219-20).

In order to do the washing operation contemplated by the Snyder patent, only sufficient clothes should be put into the tub to insure their free movement in the water in untangled condition to permit the water to penetrate, flex and roll them over freely, for "the washing efficiency depends upon getting a free action of the water over the clothes" (P. E. 13, 14, 15, EH Of. 162; P. E. 11-E, GE 667, Of. 93).

The directions for operating both plaintiff's and defendants' machines are substantially the same, and the advertisements used in connection with the sale of the defendants' machines also show that defendants claim the same operation and advantages for their machines as is disclosed and claimed in the Snyder patent (P. E. 52-3, EH 783-5, Of. 327; P. E. 18-24, EH 708-17, Of. 171; P. E. 11B to 11E, GE 647-667, Of. 93-6, P. E. 16, 16A to 16F, GE 693-715, Of. 133-4; Findings 2, 3 of Judge Otis, GE 21-4, App. 29-32; see Chart I, at end of this brief).

(b) Snyder's Drawings and Specifications Contain a Complete Disclosure and Explanation of the Novel Features of His Invention and Teach How to Best Utilize It.

Due to the novel character of the Snyder construction and the operation of his machine, considerable difficulty was experienced in properly describing and claiming his invention. (Patent, p. 5, line 28; EH 664; GE 573). However, the Snyder drawings, specifications and claims 23, 26 and 29 asserted clearly show and describe the construction, arrangement of parts, and the manner in which they are to be operated to carry out the washing operation (Findings 9, 24, GE 851, 855, App. 4, 10 and opinion of Judge Byers, 11 F. Supp. 743, 746-7, 755, EH 76-9, 103; Judge Otis, Finding 14, GE 26, App. 36, Conclusions of Law 7, GE 39, App. 54; opinion C. C. A. 8, 100 F. (2d) 218, 221).

Snyder says (patent, page 1, line 17; EH 660; GE 569):

> "Very often valuable articles, relics, heirlooms and other objects of great value are composed partly or wholly of fine and frail textures, such that they cannot be easily washed when soiled,

since their nature would not permit subjecting them to the **rigors of the ordinary washing machine operation,*** or even washing by hand."

In his application as originally filed he said what also appears in his patent (p. 2, line 29; EH 661; GE 570):

> "In my machine the **clothes are driven and swirled about in and by** the **water** in the interior **of the smooth tub.** The materials never come in any substantial contact with either the tub, or the gyrator which initially **causes the agitation, seething and surging of the water** on the interior of the tub."

Snyder also stated that the objects of his invention—(p. 1, line 34; EH 660; GE 569):

> "are attained by **so constructing and associating the tub and the gyrator** of the washing machine, and **so operating the gyrator that the weight of the articles does not interfere with the gyrator, or its action, or with the tub and its co-action with the gyrator.**"

Again he says that in his invention—(p. 1, line 40; EH 660; GE 569):

> "the gyrator and tub . . . . so co-act that the goods to be cleansed are not only given a definite washing and cleansing movement, but are also **maintained,** during such movement, in **a suspended condition** in the liquid, so that the **rapid** and energetic alternating rotary movements of the gyrator **do not interfere with the goods or cause them any injury or damage,** while at the same time the goods and the wash water . . . are **turbulently swirled or whirled** about with a **surging** and **seething** movement within the tub."

The words "suspended condition in the liquid" here

*** Here he is distinguishing his invention from the washing machines of the previous types.**

plainly mean that the clothes are so maintained, by the vigorous movements of the created water currents.

Again he says—(p. 1, line 57; EH 660; GE 569):

> "the action of the agitator **on the liquid** is to constantly press the clothes **upwardly** in a swirling formation so that they are maintained in substantial suspension in the liquid **above** the blades. To this end the tub preferably has a **smooth interior not interrupted by flanges or other projections.**"

Here he points out the swirling movement by which the clothes are rolled over and over and kept well spread out and distributed throughout the tub and suspended in and by the water while the washing action is taking place.

Page 1, line 74; EH 660; GE 569, he says:

> "As another object of the invention, the gyrator is provided with flanges which, during the alternations thereof, act to successively **impart** movement to the **contents of the tub,** such that the resultant direction of movement of the contents . . . is normally radially **outward** from the central portion of the tub, then **upwardly,** then inwardly and then downwardly toward the center of the gyrator, and yet at the same time there is a generally rotary progression or movement about the inside of the tub, first in one direction and then in an opposite direction."

Page 1, line 90; EH 660; GE 569:

> "In this way the **goods or objects undergoing the washing operation are driven about in the tub in devious paths,** while at the same time **the wash water** or cleansing fluid **is being vigorously agitated and rigorously moved** about the tub in devious paths **to sustain** the washable materials, **whereby they will not be injuriously affected by the gyrator operating or actuating mechanism.**"

In describing his water impeller having a base of substantially less diameter than the interior of the tub

and the blades thereon, he says—p. 3, line 70; EH 662; GE 571:

> "Extending in spaced position radially from the **central stem or dome** 53 are a plurality of flat, **vertically projecting blades,** wings or flanges 56."

These blades extend from the outer periphery of the impeller disc across the upper surface of the impeller and thence vertically upwardly, along the sides of the central upstanding stem, where they merge into the upper rounded end of the stem. These blades (p. 3, line 88; EH 662; GE 571)—

> "are of **substantial height** . . . so as to **project well** into the cleaning fluid."

The impeller blades, clearly shown in the drawings (p. 3, line 99; EH 662; GE 571)—

> "provide **sufficient blade surface to impart a considerable force or throw** to the water in the direction outwardly and somewhat parallel to the axis of rotation of the gyrator . . . The **force imparted to the water** is sufficient to cause the water to flow **upwardly** toward the top of the tub, as shown in dotted lines, Fig. 1. The downward flow at the upper central portion of the tub prevents the overflow of suds. **In the embodiment shown there are four of these blades, but any other number may be used as desired.**"

In describing his operation, he says (p. 5, line 15; EH 664; GE 573):

> "**As a result of this action imparted to the cleansing liquid by the gyrator, the water in turn imparts a similar action to the fabrics. Goods are thus whipped, whirled and dashed around in the sieving, whirling, turbulent action set up by the gyrator.** Thus the fabrics are given a quick, snappy, sieving, whirling, reversing double action, produced by the gyrator, doubling the clothes first one way and then the other until **every thread in the fabric is acted upon an untold number of**

times, somewhat like the cracking of a whiplash in all directions."

With the drawing of the Snyder patent before him, with such full disclosure in the patent and with the knowledge possessed by all engineers familiar with washing machines that the previous slow moving peg dolly and rubboard types operated at from 25 to 40 oscillations per minute (GE 83-4, 502-4, 367, 348; EH 388-9, 400),* any such mechanic would, as did defendants in building their infringing machines, operate the mechanisms shown in the drawings for oscillating the impeller, at such rapid speed as to wash clothes in the manner described by Snyder. The patent teaches that this speed must be much more rapid than that at which these previous machines were operated (EH 308-10; GE 145-7).

Snyder makes a much more complete disclosure as to the speed and manner of operation of his invention and "violence of flow" to be produced in it than that contained in many patents sustained by this Court. *Smith* v. *Snow,* 294 U. S. 1; *Eibel Co.* v. *Paper Co.,* 261 U. S. 45, 65, 66; *Continental* v. *Eastern,* 210 U. S. 405, 420; *Expanded Metal Co.* v. *Bradford,* 214 U. S. 366, 377, 379; *Keystone* v. *Adams,* 151 U. S. 139, 142.

The teachings of the patent in suit fully comply with the law in this regard. *General Electric Supply Corp.* v. *Maytag Co.,* 100 F. (2d) 218, 223, C. C. A. 8.

This was so found by both Judge Byers and Judge Otis. (Judge Byers' Findings 9 and 24, GE 851-855, App. 4, 10; Opinion 11 F. Supp. 755, 756; Judge Otis, Finding 14, Conclusion of Law 7, GE 26, 39, App. 36, 54.)

*** "That which is common and well-known is as if it were written out in the patent." Loom Co. v. Higgins, 105 U. S. 580, 1st par. 586.**

This Court recognizes the patentable character of the steps taken by Snyder in so constructing his device and operating it at high speed to obtain the vigorous water action when it says in *Eibel Co.* v. *Paper Co.*, 261 U. S. 45, 68:

> "The fact that in a decade of an eager quest for higher speeds this important chain of circumstances had escaped observation, the fact that no one had applied a remedy for the consequent trouble until Eibel, and the final fact that when he made known his discovery, all adopted his remedy, leave no doubt in our minds that what he saw and did was not obvious and did involve discovery and invention."

(c) Advertisements of Defendants' Machines Stressed Snyder's Advantages.

The defendant, Easy Washing Machine Company, and its predecessor, Syracuse Washing Machine Co., "one of the largest manufacturers of washing machines," "from its beginning in 1877" until 1930 was engaged almost exclusively in the manufacture and sale of the **"vacuum cup"** type of washing machines shown in its catalogs P. E. 51 and 51B (EH 771-3, 780-2, Of. 323), in which the clothes were placed in a tub beneath a number of suction cups which were moved up and down on top of the clothes to compress and squeeze them while washing them in a mass. The Easy Company advertised (P. E. 51, EH 772, Of. 323) that—

> "Throughout the forty odd years of evolution" of this machine its "underlying principles . . . have not been changed, and each succeeding year has only served to establish it as the **most** effective washing method that is known."

Despite its advertising that "forty odd years" had served to establish its vacuum cup type of machine as

the **most** effective method of washing that is known, when it found that its vacuum cup machines could not successfully compete with the Maytag gyrator machines, which it had been deriding, "the Easy Company, acquired Maytag machines for the information of their experimental staffs" (11 F. Supp. 743, 745, EH 74), and in 1929 (EH 328-9) started the manufacture and sale of its infringing machines, and flamboyantly and unrestrainedly advertised them as operating in the manner disclosed by Snyder (11 F. Supp. 743, 746, Judge Byers' Finding 15, App. 6).

In advertising its machine charged to infringe it likewise emphasized the very advantages so clearly depicted in the Snyder patent, and said that its water impeller keeps—

> "the clothes **in constant suspension** and assist in providing an **ideal roll-over movement** that washes [the clothes] thoroughly." (P. E. 53, EH 785, Of. 327.)
>
> "The EASY agitator is **very gentle on the clothes** and will not harm them." (P. E. 52, EH 784, Of. 327.)
>
> "With agitator running put in clothes, one piece at a time. **Overloading lessens the roll-over fast washing quality of the machine, and is a time loser.**" (P. E. 52, EH 783-4, Of. 327.)

The defendant, Hurley Machine Company, first began the manufacture of the gyrator type machine here charged to infringe in 1928 (EH 328-9), and stated in advertisements thereof:

> "**Five minutes a tubful!** Clothes sweet and clean. Made so by the fast, gentle action of its remarkable Agitator." "The THOR Agitator has been designed to afford a speedy cleansing of clothes with the most gentle washing action." (P. E. 18; EH 707-8, Of. 171.)

"Your washer should assure you not only a fast washing but a gentle one for no washer is an economy if it causes excessive wear on clothes. **You can feel safe in washing even your daintiest garments in this washer for clothes last 50% longer when washed this improved Thor way.**"

"The SUPER Agitator produces 936 water currents per minute. **Speed without tangling or braiding.**" (P. E. 21, EH 712, Of. 171.)

"prevents clothes from tangling. **It produces a new washing action.**"

"Spotlessly clean clothes . . . **all safely cleansed by a gentle washing action that safeguards the most delicate fabric**" "**a faster washing action without any possibility of tangling clothes.**" (P. E. 20, EH 710-1, Of. 171.)

"New kindness to clothes" (P. E. 23, EH 715, Of. 171).

The record shows that in 1928 when the Hurley Company began the sale of the machines charged to infringe, it was also selling the "cylinder" type machine, and at first these machines had the larger sales but that gradually the sale of the infringing machines became greater than the sales of the cylinder type until in 1934 they were five times that of the cylinder type (EH 170-1).

Advertisements Issued in Connection With the Sale of the General Electric Machines Stressed the New Manner of Washing Clothes First Disclosed in the Snyder Patent and Carried Out in the Maytag Gyrator Type Machines.

These advertisements said:

"The New G-E Washer is most remarkable of all because of the way it washes clothes. **In a few minutes it can prove to you that the rubbing and pommeling methods of 3,000 years have been**

wrong! Clothes DON'T have to be worn out before their time. See the **almost miraculous** way the exclusive G-E Activator **forces suds through fabric, makes suds and water currents do all the work.**" . . . .

"General Electric engineers have made these washers more than 'new models' or 'improved editions.'

"They've gone to the very roots of washing clothes. They've asked, **'Do dirty clothes actually have to be rubbed, or pounded, to get them clean? Isn't there some gentler way?'** "

"The **G-E Activator**, specially designed, **washes** even heaviest pieces as you wash dainty lingerie **—by gently forcing suds through the fabric, many times a minute.**" (P. E. 16,* GE 693, Of. 133-4.)

"The ACTIVATOR is found only in G-E Washers. Different from the ordinary agitators, it **washes by water action alone—with no harsh scrubbing.** That is why it is safe to wash even your daintiest pieces. Because of its unique design **the currents** set up by the ACTIVATOR'S motion **cause the clothes to be flexed, and hot sudsy water to be forced through the mesh of the fabrics,** thus assuring a perfectly and thoroughly done washing. The ACTIVATOR **eliminates tangling and braiding**—the common occurrence that causes clothes to wrap tightly around the ordinary agitator post and cause tearing and straining."

"No more frayed cuffs or collars—no more torn sheets—no more fears for silken lingerie—for **in this washer your clothing gets a thorough scrubbing on a 'washboard of clean soap suds.'** " (P. E. 16A, GE 697, Of. 133-4.)

*** (Advertisement in Better Homes and Gardens, October, 1934, p. 47, entitled "It's miracles like these NEW washers that have made General Electric famous!")**

In the General Electric directions for operating its machines, it said:

> "Place washing in the tub while the Activator IS IN MOTION. Distribute uniformly. Better results are obtained by washing smaller quantities of clothes for shorter periods of time than by crowding the machine with large loads."
>
> **"For proper washing action the clothes should be turning over freely in the water."** (P. E. 16B, GE 701, Of. 133-4.)

These directions are practically the same as those used by plaintiff since it first put its gyrator machines on the market (P. E. 11E, GE 667, Of. 93. See chart at end of brief.)

Faced with such "flamboyant and unrestrained" advertising (11 F. Supp. 743, 746), it is not surprising that defendants' counsel took no testimony in the *Easy-Hurley* cases to support one of their main, but completely untenable, contentions in the *Brooklyn Edison* case, that clothes could not be washed by water action in the manner disclosed and claimed by Snyder.

(d) Legal Effect of Defendants' Advertisements and Circulars.

Defendants' representations to the public, in connection with the sale of its machines embodying the Snyder invention (while not under the stress of litigation), clearly depict the novelty of that invention and differentiate it from the "rubbing and pommeling" (*supra,* pp. 19-32) machines of the prior art upon which they rely to defeat the Snyder patent.

Such statements by a defendant in its advertisements and trade circulars, have been regarded by this and other courts as strong evidence against it both as to validity and infringement of the patent.

In *Potts v. Creager,* 155 U. S. 597, this Court referring to defendant's trade circulars said (p. 610):

> "This is a frank and apparently a just tribute to the merits of the plaintiff's invention, as well as a distinct admission that their own machine accomplishes the same result."

In *Graham Paper Co.* v. *International Paper Co.,* 46 F. (2d) 881, 885, the Court said (C. C. A. 8):

> "The strong evidence against the defendant is the circular which it issued in which it pointed out directions as to how its mulch paper should be used."

See, also, *Mallinckrodt Chemical Works* v. *E. R. Squibb & Sons* (W. D. Mo.), 6 F. Supp. 173, affirmed (C. C. A. 8), 69 F. (2d) 685.

II.

Defendants' Machines Utilize Each Element of the Combination and Specific Construction and Operation Covered By Each Claim in Suit.

The Snyder machine is well depicted in claims 23, 26 and 29 in suit (EH 666-8; GE 575-7). Each of these contain important essentials which distinguish it from the prior art. **Each is specifically limited** to the **construction and arrangement** of its combination of **machine** elements **and their operation.** Each is limited to mounting the impeller at the **bottom** of the tub, and to a specific operation of these parts. That this combination, operation and mounting is present in all defendants' machines, was found and decreed by Judge Byers, and Judge Otis affirmed by the Eighth Circuit Court of Appeals, respectively. There is no finding or holding to the contrary (P. E. 3, 4, Of. EH 171, P. E. 3A, 4A, EH 675-6, Of. 300; 289-300; P. E. 12, Of. GE 96, P. E. 12A, 12B, GE 671-3, Of. GE 147, 501, P. E. 16, 16A to F, GE 693-715, Of. 133-4; Findings 3, 4, 5, App.

2, 3, 11 F. Supp. 743, 744; Finding 3, GE 22-4, Conclusion 9, GE 40, App. 29-32, 54; 100 F. (2d) 218).

It was only by adopting the erroneous statements in defendants' briefs below and disregarding the limitations of each of these claims and the findings of fact of Judge Byers and those of Judge Otis that the Second Circuit Court of Appeals held that they are met by the Jardine patent, by the Davis and the Doughty and Davis patents and machines made thereunder.

Claim 23 (EH 666-7; GE 575-6).

This claim comprises a combination of well defined elements each of which will be separately considered. They are numbered and set forth in black type.

1. **"a tub for containing cleansing liquid and materials to be cleansed, said tub having a bottom portion and an upwardly extending wall portion, the interior surface of which is free from rubbing projections,"**

In order to avoid rubbing and scrubbing the clothes, the interior of Snyder's and each of defendant's tubs is free from rubbing projections.

2. **"a rotary reciprocatory impeller mounted in the tub adjacent its bottom, having a base and a plurality of blades, each of which is of substantial height and lateral area, and a central portion projecting upwardly from the base, the upper surface area of the base being considerably less than the horizontal cross-sectional area of the tub through its upwardly extending portion, the margin of said base being spaced a substantial distance away from the upwardly extending portion of the tub, said tub and impeller being so constructed and positioned relative to each other that when the impeller is rapidly reciprocated each blade and its adjacent portion of the impeller base will simultaneously drive the cleansing fluid in one and then**

an opposite outward upward circulatory direction toward and around the clothes, and act in co-operation with the interior of the tub to cause violently flowing opposed currents of liquid to meet and flow inwardly and downwardly toward the central portion of the tub, and substantially suspend the materials in the fluid while being washed."

The claim thus is limited to an impeller, mounted adjacent the bottom of the tub, comprising a base with integral **blades of such substantial height and lateral area** that they will **extend upwardly** into the washing fluid a sufficient distance (clearly **shown in the** Snyder patent **drawing),** so that each of them will impel a large amount of water on each stroke of the impeller in each direction (EH 289-294; GE 145-7). This is essential to the Snyder operation.

The claim also calls for a central portion projecting upwardly from the base of the impeller for directing rapidly moving currents of water between the blades and over the surface of the base as the impeller is rapidly reciprocated. **The upper surface of the impeller,** in accordance with the language in this claim, **must be considerably less than the horizontal cross-sectional area of the tub,** and have its margin **"spaced a substantial distance away from the"** wall of the tub, as clearly shown in Figure 1 of Snyder's drawings (EH 657; GE 564), to provide a wide space between the impeller and the side walls of the tub which permits the **outward** and **upward** flow of water that causes the clothes to be rolled over and over and enables them to be maintained, by the rapid movement of the water in untangled and unbraided condition and kept well distributed throughout the interior of the tub, and out of substantial rubbing contact with mechanical parts in the washing operation.

In order to meet the language of this claim the impeller and tub must be so **"constructed and positioned relative to each other"** and the impeller reciprocated with sufficient rapidity that "each blade and its adjacent portion of the impeller base will simultaneously drive the cleansing fluid in one and then an opposite, outward, upward, circulatory direction toward and around the clothes and act in co-operation with the interior of the tub to cause the violently flowing, opposed currents of liquid to meet and flow inwardly and downwardly toward the central portion of the tub, and thereby substantially suspend the materials in the fluid while being washed." (EH 289-98; GE 143-7.)

The manufacturers of **defendants'** machines recognized the importance of this construction and arrangement and the necessity of operating the impeller at high speed to secure Snyder's novel results which are featured in their advertising (*supra,* pp. 50-54). **Each of the machines charged to infringe follows the Snyder drawings** in providing a base with water impelling blades of substantial height and lateral area and an upper surface area for the base considerably less than the horizontal cross-sectional area of the tub through its upwardly extended portions. They also follow the Snyder drawing by spacing the margin of the base of the impeller a substantial distance from the upwardly extending portions of the tub, and for the same purpose set forth by Snyder. (See Chart I at end of this brief.)

> 3. **"a rotary reciprocating drive shaft extending upwardly through the bottom of the tub into the interior thereof for supporting the impeller for movement in a fixed plane."**

In the Snyder patent drawings, the Maytag **Gyrator** and defendants' machines, the drive shaft extends

through **the bottom of the tub** and the impeller is mounted on the upper end of the shaft to operate in a **fixed plane** adjacent the bottom of the tub and thus uses the limitations of this claim for the purposes disclosed by Snyder. In order to secure the rapid movement of the water necessary for causing and permitting the clothes to rapidly roll over and over and keep them well distributed and untangled throughout the tub, **the impeller is mounted at the bottom of the tub** and is **operated in a fixed plane** (Judge Byers, Finding 8, GE 851, App. 4; see also Judge Otis, Finding 3, GE 22-4, App. 29-32). It will not do to have it **slidable** up and down in the water as in the prior art rubboard type machines, such as **Davis,** 1900 Forms 1, 2 and 3 machines (D. E. 2A, P. E. 16, 50, Of. EH 351, 341, 302; D. E. 27, P. E. 47, 48, Of. GE 338, 535, P. E. 5C, GE 607, Of. 88); **Dietz** (P. E. 28, EH 727, Of. 171; P. E. 44, GE 947, Of. 516); **Haag** (P. E. 31, EH 732, Of. 171; P. E. 43, GE 945, Of. 516); **Boss** (P. E. 43, EH 764, Of. 171); **Superior** (P. E. 38, EH 746, Of. 171; P. E. 41, GE 941, Of. 516), whose operation depended upon the rubboard sliding down, compressing the mass of clothes and rubbing it between the rubboard and bottom and sides of the tub (see *supra,* pp. 23-6; *infra,* pp. 69-82).

4. **"power means for rapidly reciprocating the shaft and impeller for the purposes set forth."**

In order to secure the directional flows of water called for by this claim, not only is the impeller mounted at the bottom of the tub, but the tub and impeller **must** be **so constructed and arranged** relative to each other, the impeller mounted in a **fixed plane and reciprocated at a rapid rate** to secure the action set forth in this claim and the results disclosed in the Snyder patent and which obtain in **defendants' machines**

(EH 308-9, 294, 298; GE 145-7, 124, 125; see also Judge Otis, Finding 3, GE 22-3, App. 29-32).

The evidence shows that plaintiff's and defendants' impellers are constructed, mounted and operated in the same way (EH 298; GE 144-7, 96, 135, 243).

In the old dolly and rubboard machines the dollies and rubboards had to be operated at slow speed as compared with the Sn · gyrator type, for in these machines the cloth were either dragged through the water as a mass or rubbed as a mass by the dolly or rubboard (EH 388-9, 400; GE 82-4, 88, 122, 502-4, 367). To operate these at the high speed used by Snyder would make them too severe on the clothes and increase the damage always prevalent in the use of these machines (EH 479; GE 83-4, 502); whereas in the Snyder gyrator type high speed is an absolute necessity to create the vigorous water action for keeping the clothes in substantial suspension, well distributed throughout the tub, and rolled over and over while out of any substantial rubbing contact with the operative parts of the machine (EH 296, 310, 161, 201, 206, 212; GE 90, 144-7). If the impeller of the Snyder Gyrator type should be operated at the slow speed of the old dolly and rubboard types its high thin blades would seize and drag the clothes and seriously injure them and indeed become the "ensilage cutters" that competitors asserted the new type was when condemning it before they appropriated and sold this type (EH 153-5, 182-3, 323-4; GE 94-5, 129).

There is nothing in claim 23 to limit it to a dish-shaped impeller as defendant in the *General Electric* case contends, despite its concession of infringement in the Court of Appeals (100 F. (2d) 218, 219, C. C. A. 8). That the Snyder and each of defendants' constructions,

covered by this claim, works with entire satisfaction without the impeller being dished is conclusively shown by the testimony and by the findings of Judges Byers, Otis and the Eighth Circuit Court of Appeals—there is no finding or holding to the contrary—and by the fact that both plaintiff and each of defendants make impellers in that way. (See Chart I.)

Claim 26 (EH 667; GE 576).

This claim comprises the following in combination:

(1) **"In a washing machine for cleansing fabrics by forcing cleansing fluid through them while substantially suspended by the action of the fluid, as distinguished from pulling or pushing the fabrics through the fluid or against scrubbing surfaces, or otherwise scrubbing them by mechanical means"**

In this statement Snyder points out that he depends upon water action for his washing, and that he does not use the prior art machines in which the washing was done by pulling or pushing the fabrics through the fluid or against scrubbing corrugations or otherwise scrubbing them by mechanical means. This taught washing machine manufacturers the novel conception of Snyder over the old art with which they were familiar.

(2) **"a tub,"**

The tub shown in the drawings of the patent and described in the specification and used by the defendants has a smooth interior which eliminates scrubbing surfaces (EH 308, 660; GE 144, 569).

(3) **"a substantially imperforate rotary reciprocatory impeller mounted to operate in a fixed plane having blades of substantial height and area projecting therefrom in a direction toward the fabrics while they are being cleansed,"**

By referring to the drawings of the patent, it will be

seen that the impeller **is imperforate,** and that **it is mounted at the bottom of the tub.** It is **mounted to operate in a fixed plane** to accomplish the desired results. It will not do to have the impeller **sliding** as in the prior rubboard (like Davis, Dietz and others) type machines, and it must be mounted at the **bottom** to throw the currents **outwardly and upwardly** as called for in the next element of the claim. The blades on the impeller **must be of substantial height and area.** This height and area is used by defendants and is clearly shown in the drawings. These blades must project upwardly from the base of the impeller as shown in the drawings "in a direction toward the fabrics" in order to produce the necessary water action for carrying out the operation described in the claim (EH 657, 309; GE 144-6, 564).

> (4) **"said tub and impeller being so constructed and arranged as to cooperate while the impeller is in operation for whipping the fluid and violently forcing it outwardly, upwardly and in a general vertical and circulatory movement and circumferentially of the tub first in one and then in an opposite direction and through and around the materials, and substantially suspending the materials in the fluid while being washed."**

The limitation in this claim of having the tub and impeller so **constructed and arranged** as to co-operate while the impeller is working for carrying out the expressed operation is a definite and necessary one for the success of these machines. By referring to the drawings of the patent, it will be seen just what is meant by the **substantial space** between the edge of the impeller and the upright portion of the tub. This spacing is very important, in that it provides a **roll-over zone** and permits the water to be thrown outwardly a substantial distance from the impeller before

it is forced against the vertical interior of the tub. This spacing permits the clothes in the water to be forced by the vigorous movement of the water **"outwardly"** from the impeller a substantial distance and **upwardly,** so that the clothes will be rolled over and over, kept well distributed throughout the tub in untangled condition, and subjected to the violent water action which passes through and around them and substantially suspends them in the fluid while being washed (EH 294, 309; GE 144-7). This same spacing is used in **defendants' machines** (EH 294-8, 308-9; GE 144, 168). **The description of the water movement calls for an impeller mounted at the bottom of the tub. It is due to the construction and arrangement of the parts of the machines and their operation** that the results described are enabled to be accomplished in both plaintiff's and **defendants' machines.**

In order to secure this action, the speed of the impeller must be much greater than with previous types and anyone building Snyder's machine would readily ascertain the proper speed to secure the action which the Snyder patent so clearly teaches. (See Judge Byers' Findings 9 and 24, GE 851, 855, App. 4, 10; Opinion, 11 F. Supp. 755, 756; also Judge Otis, Finding 14, GE 26, App. 36).

(5) **"and power means for rapidly reciprocating the impeller."**

By reference to the drawings, it will be seen that this includes a drive shaft, to which the impeller is **secured for operation in a fixed plane adjacent the bottom of the tub,** extending downwardly through the bottom of the tub, and the pinion which is operatively engaged by a rack bar or similar element driven by a motor. It is necessary to have these elements thus arranged in order to properly reciprocate the impeller, both as to

amplitude and speed of oscillation. They are clearly shown in the Snyder patent drawings and are used in the **defendants' machines.** (See Chart I at end of Brief.)

The evidence shows that both plaintiff's and **defendants' impellers** are constructed, mounted and operated in the same way and accomplish the same results as are called for by this claim. They were made and intended to operate in the manner described in the Snyder patent (EH 289-298, 160; P. E. 52-3, EH 783-5, Of. 327, P. E, 18, 20, 21, 23, EH 707, 710, 712, 715, Of. 171; GE 144-7, 96, 135, P. E. 12, Of. GE 96, P. E. 12A, 12B, 16, 16A-F, GE 671, 673, 693-715, Of. 147, 501, 133-4).

The record shows that increasing the speed of the Snyder impeller 15 oscillations per minute, increased the clothes carrying capacity of the water five times (EH 296, 310; GE 528). The previous rubboard machines with their low rubbing cleats were operated at a speed of about 40, whereas the Snyder machine was operated at from 52-58, and the defendants' about 60 oscillations per minute (EH 388-9, 400, 299-300; GE 502-4, 367, 96, 145-7). This speed and the construction and arrangement of the impeller with its blades of substantial height and lateral area made possible the washing of clothes in the manner disclosed by Snyder and obtained in defendants' machines (EH 309-10; GE 144-151).

Claim 29.

This claim is limited to a rotary reciprocatory **impeller mounted adjacent the bottom** of the tub (EH 668; GE 577). In addition to other limitations, which are readily apparently from the foregoing discussion of claims 23 and 26, this claim provides for **"the change in direction of movement of the impeller being accom-**

plished suddenly and forcibly to whip the liquid and vigorously force it first in one direction and then in the opposite direction through and around the materials while substantially suspended therein by the action of the liquid." When this claim is considered in connection with the drawings and specifications, it is apparent that it likewise reads clearly on defendants' structures and is not anticipated by the prior art.

The trial court in the General Electric case, after hearing the witnesses and watching numerous demonstrations of plaintiff's and defendant's machines and giving due consideration to the opinion of the Second Circuit Court of Appeals, found exact similarity between the important features of construction and operation of each claim in suit to be present in both plaintiff's and defendant's machines as follows:

> "Claims 23, 26 and 29 of the Snyder patent, when read in connection with the drawings and specification, are each limited to an impeller mounted for fixed movement and at the bottom of the tub, to the combined structural elements shown in the drawings and referred to in the specification or their equivalents and to the operation described. When thus read they are not anticipated and include within their proper scope defendant's machine" (Finding 16, GE 27, App. 36).
>
> "The General Electric Company's machines sold by the defendant employ and utilize the invention of the Snyder patent, and operate in substantially the same way as the Maytag machines made thereunder by plaintiff. This appears from comparison of the Snyder patent drawings, its specification and claims here in suit, the Maytag machines, Plaintiff's Exhibits 9, 10 and 11 and the defendant's machines supplemented by the testimony" (Finding 3, GE 22, App. 29).

These findings, which are in accord with findings of

Judge Byers in the *Brooklyn Edison* case with respect to claims 23 and 26, were concurred in by the Eighth Circuit Court of Appeals, 100 F. (2d) 218.

Judge Byers, Judge Otis and the Court of Appeals for the Eighth Circuit Properly Considered the Patent Specifications and Drawings and the Prior Art In Interpreting the Claims In Suit Under the Decisions of This and Other Courts.

In *General Electric Supply Corporation* v. *Maytag*, C. C. A. 8, the Court of Appeals, relying on a decision of this Court said (100 F. (2d) 223):

> "There is no merit in the contention of the defendant that the claims in the Snyder patent, wherein the adjective 'substantial' is used to indicate the height and lateral area of the impeller blades, and the distance of the outer edge of the impeller from the walls of the tub, are bad for indefiniteness. They must be considered in connection with the drawings and specifications and the earlier devices, and so considered we think they are sufficient. *Eibel Process Co.* v. *Paper Co.*, 261 U. S. 45, 43 S. Ct. 322, 67 L. Ed. 523."

In *Eibel Co.* v. *Paper Co.*, cited by the Eighth Circuit Court of Appeals, this Court had to do with claims of the same general character as those of the Snyder patent here in suit. Indeed, the claims in suit were patterned after those involved in the Eibel case, in order that they might strictly conform to the decision of this court. (See File-Wrapper, D. E. C, EH 1238-45, Of. 347; D. E. 35, GE 1517-31, Of. 278.)

In the *Eibel* case this Court said that the use of the words **"substantial," "rapidly," "high,"** and "at a **speed** approximately equal to the speed of the wire" in a patent claim, in view of the drawings and specifications were entirely proper and sufficiently definitive

and sustained each of such claims. To the objection that they were too vague, this Court said (pp. 65, 66):

> "The next objection to the patent which prevailed in the Circuit Court of Appeals is that its terms are too vague because the extent of the factor of pitch is not defined except by the terms **'substantial'** and **'high.'** **The figure accompanying the specification and illustrating the improvement** indicates an angle of four per cent. or an elevation of 12 inches, **and the reference to the small elevations for drainage shown in earlier devices indicates that the patentee had in mind elevations substantial as compared with them in order to achieve his purpose of substantially increasing the speed** of the stock. It was difficult for him to be more definite, due to the varying conditions of speed and stock existing in the operations of Fourdrinier machines and the necessary variation in the pitch to be used to accomplish the purpose of his invention. . . . **This patent and its specifications were manifested to readers who were skilled in the art** of paper making and versed in the use of the Fourdrinier machine. . . .
>
> "The immediate and successful use of the pitch for this purpose by the owners of the then fastest machines and by the whole trade **is convincing proof that one** versed in paper making **could find in Eibel's specifications all he needed to know,** to avail himself of the invention. Expressions quite as indefinite as **'high'** and **'substantial'** in describing an invention or discovery in patent specifications and claims have been recognized by this Court as sufficient. In *Tilghman* v. *Proctor,* 102 U. S. 707, the claim sustained was for 'the manufacturing of fat acids and glycerine from fatty bodies by the action of water at a high temperature and pressure.'"

In this decision this Court not only recognizes the rule that the language used in the Snyder patent is

sufficient, but also the fact that when the patentee used such terms he had in mind using the word "substantial" to indicate something different from earlier devices with which the public was familiar. Here, with his patent drawings and using in his claims the terms "of substantial height and lateral area" with respect to his blades, spacing the impeller "a substantial distance away from the upwardly extending portion of the tub," and describing the rapid and violent flows of the water created by the rapid oscillation of the impeller to wash the clothes by water action, as distinguished from rubbing, scrubbing, dragging, pounding and squeezing them, as had been prevalent in the prior art, Snyder made entirely clear how to make and use the invention covered by his claims. This structure shown in the Snyder patent drawings is just as much a part of his claims as if written therein (*Loom Co.* v. *Higgins,* 105 U. S. 580, 586).

We especially urge the Court to consider the claims (1, 2 and 12) of the Eibel patent before this Court in the Eibel case and its decision with respect thereto, for in that case the Court approved and held valid claims of the same general character as those involved in the present suit. In that decision this Court distinguished from the prior art involved in such a way as to completely dispose of the art relied upon here by defendants. See also *Smith* v. *Snow,* 294 U. S. 1.

None of the defendants in any of the cases involving the Snyder patent experienced any difficulty in understanding the Snyder construction and its operation, for in making their machines held to infringe, each provided a smooth interior tub, an impeller mounted at the bottom of the tub for operation in a fixed plane having substantially the same base area and spaced substan-

tially the same distance from the vertical interior of the tub, and having blades of substantially the same height and lateral area as are clearly depicted in the drawings of the Snyder patent (EH 657-9; GE 564-8, Finding 3, 22-3, App. 29-31; Findings of Judge Byers 3, 7, 8, 15, App. 2, 3, 4, 6; 11 F. Supp. 743, 745) made from one of the first machines put upon the market by the plaintiff before the application was filed (GE 461). They likewise operate their impellers at substantially the same speed as that utilized by plaintiff in making its machines under the Snyder patent, and thereby accomplish and claim to accomplish in their advertisements, the same results in substantially the same way. This is fully supported by the testimony (EH 298-9, 160; GE 144-50, 168, 96, 135, 243-4).

III.

The Prior Art Principally Relied Upon by the Defendants, on Which the Court of Appeals for the Second Circuit Held the Snyder Patent Claims 23, 26 and 29 Invalid, and Which Judge Byers, Judge Otis and the Court of Appeals for the Eighth Circuit Found and Held Did Not Disclose the Invention Covered by These Claims.

(A)

The Davis Patent and Machines Made Thereunder by the 1900 Company.

The drawings of the Davis patent show, and the machines made under it by the 1900 Company are a substantial replica of the old well-known, abandoned rubboard type machines (*supra*, p. 23). (P. E. 16, Of. EH 341, D. E. 2A, Of. EH 351, 302-8, 312, 375, 371-2, 377, 173; P. E. 5C, 607, Of. GE 88, P. E. 47, 48, Of. GE 535, D. E. 27, Of. GE 338, GE 359-60, 367-8, 374). In these

Davis machines there is a rubboard of substantially the same diameter as the interior of the tub, provided with a number of radially arranged, downwardly projecting, low (7/8 inch) rounded cleats. This "disk" (rubboard) was **slidably mounted in the cover** as in all previous rubboard machines, and it was operated at the same slow speed (about 40 oscillations per minute). The single claim of this Davis patent calls for this disk "being freely movable vertically" (EH 920; GE 1058). Th slidable mounting of the rubboard was such that when clothes and water were placed in the tub and the rubboard put in operation it **slid down into contact with the clothes** and **compressed them between the bottom and sides of the tub,** and **rubbed the mass** thus compressed and **dragged it** against the corrugated interior of the tub. The interior of the tubs made under the Davis patent were corrugated in accordance with the general practice in washing machines of the old rubboard type to increase the washing action (EH 371-2, 407; GE 347, 368).

The statements contained in the Davis patent indicate plainly that the disk (rubboard) was to be operated slowly and was designed to create only a slow circulation of water, for in it he says that he provides "means in connection with the agitator disk to **prevent churning of the washing fluid,**" (Pat., p. 1, lines 29-31) and **to eliminate "eddies and other current irregularities** preventive of a high degree of efficiency" (p. 1, lines 84-86).

The evidence in the *Easy, Hurley* and *General Electric* cases shows that commencing in 1918, the 1900 Company made and sold machines embodying the construction of the Davis patent, which were designated by it as forms 1, 2 and 3 machines. They all operated in the same way (GE 334, 359-60). They are represented in evidence by a photograph (P. E. 50, Of. EH

302; P. E. 5C, 607, Of. GE 88); and by physical exhibits (P. E. 16, Of. EH 341, D. E. 2A, Of. EH 351; P. E. 47, 48, Of. GE 535; D. E. 27, Of. GE 338).

The defendants took the testimony of various persons connected with the 1900 Company at the time these machines were manufactured and before they were abandoned about 1921 (EH 351-2). The testimony of these witnesses, as well as that for plaintiff, brings out clearly the marked differences between the construction and operation of these machines and that of the Snyder patent. These differences emphasize the novelty of the Snyder invention and what it has accomplished over the old abandoned Davis rubboard type machines.

That the Action of the Davis Machine Is Substantially Identical With All Rubboard Type Machines on the Market Previous to 1922 and Now Abandoned Is Fully Supported by Defendants' as Well as Plaintiff's Witnesses (EH 173, 182, 302, 318, 352, 359, 376-7; GE 367-8, 374, 529, 88, 510).

Defendants' expert Taggart says that in this machine the clothes were washed by rubbing, pounding, squeezing and dragging them, both in the *Brooklyn Edison* and *General Electric* cases (GE 261-2, 100 F. (2d) 218, 222, C. C. A. 8.

Mrs. Laura Wensley, a housewife who testified on behalf of defendants in the *Easy-Hurley* cases with respect to this Davis rubboard machine, which she used, says of its rubboard construction (which she called a "dolly," EH 472-3)—

> "when the dolly **goes down** it pushes the water up because it is heavy. . . . this **arrangement shoves the clothes back and forth, and that is what does the washing.** . . . these corrugations on the bottom . . . . rub the clothes more . . .

> **the rubboard rubbed the clothes back and forth,** . . . So that the dolly engaged the clothes all the time that it worked."

Yeomans' undisputed testimony in the *Easy* and *Hurley* cases says of the Davis machine (EH 306) that—

> "The clothes are not washed by circulating currents of water up through them. . . . . They are rubbed, and nothing else, and pressed down and rubbed. . . . There could not be any circulation of water through the clothes, because they are matted right up there on that rubboard. . . . The cleats may serve some purpose as rubbers, and they may serve some purpose as the engaging fingers of a dolly, but they serve no purpose as a water circulator."

Defendants' witness Doughty testified that the interior of the machines made under the Davis patent were corrugated in accordance with the general practice in washing machines of the old rubboard type (GE 346-7). The purpose of this was to carry out the old idea of rubbing clothes as they were rubbed on the old-fashioned washboard (GE 347). The Davis rubboard was **slidably mounted** with respect to the cover so that it was free to "go down" until it contacted the clothes "depending upon the loading of the machine . . . **so as the rubboard moved down it would contact and compress the clothes between the rubboard and the bottom and sides of the tub**" (GE 347-8, 359-60, 367-8, 521-4, 88; EH 302-6, 311-2, 472-3).

The clothes adhered to the rubbing cleats in that machine, and "There was very poor circulation of clothes, practically none, when the machine was ordinarily loaded." (GE 349-50.)

The fact that the **"freely movable vertically"** rubboard of the Davis (last line of claim EH 920; GE 1058) in operation **slid down and compressed** the

clothes and rubbed and dragged them about in washing them (GE 350, 368), is well depicted in a letter which Mr. Doughty wrote his company's patent attorney, Mr. Clark, long before there was any controversy as to the operation of the Davis machine. In writing this letter of **March 23, 1921** (D. E. 9, EH 1316, Of. 368; D. E. 38, GE 1725, Of. 338), Doughty describes a joint invention of his and Davis by which they were seeking to remedy the serious defects of the machine of the Davis patent (EH 918; GE 1056) then being sold by the 1900 Company. In doing so he points out the operation of this Davis machine and the objections to it. He says that by their new machine he and Davis were seeking to overcome (EH 1317; GE 1727)—

> **"an action which occurs in the top agitator [Davis] machine which causes the agitator to sink in the water and restrict the free movement of the clothes."**

In further referring to this old Davis machine he wrote:

> "the vanes on the agitator when in motion cause the clothes to flow from the center toward the side of the tub. Consequently, **the center is lowered** and the **agitator,** which is only held in position by floating upon the water, or by the supporting effect of the clothes, **is drawn down with the result of compressing the clothes, restraining their free movement and increasing the power required to operate the washer."**

Defendants' witness Davis testified that he heartily agreed with everything that Doughty said in this letter concerning the Davis machine and its operation (100 F. (2d) 218, 222, C. C. A. 8) (GE 316).

Doughty testified that another difficulty with the operation of the Davis machine was that the clothes remained in a state of rest at the center of the tub, and at the time they were selling these machines it was the

custom to load as many clothes in them as the tub would hold for each washing operation (GE 353-4). This construction, loading and manner of operation are diametrically opposed to that of the Snyder invention.

Defendants' witness Thomas W. Behan was connected with the 1900 Company from the fall of 1918 until the end of 1933 "in capacities from factory manager to general manager and president" (EH 347-8; GE 362). At the time he testified in the *Brooklyn Edison* case, he gave a deposition which was brought forward by stipulation into the *Easy* and *Hurley* cases. When he testified in the *General Electric* case he was no longer connected with that company. For about eighteen years previous to his employment by the 1900 Company, he was connected with the General Electric Company, and while there had occasion to examine and become familiar with the long abandoned rocker—scrubboard, rubboard, dolly, oscillator, cylinder and vacuum cup types of machines heretofore referred to, because the General Electric Company was selling electric motors for use on these machines to manufacturers of them, including the plaintiff (GE 366-70).

Behan was thoroughly familiar with the 1900 Company's forms 1, 2 and 3 machines embodying the construction of the Davis patent, and **testified that they operated in the same manner as all of the old abandoned rubboard type machines** (GE 367-8, 374; EH 371-2). **He said that in none of these machines was the rubboard held for operation in a fixed position** in the machine (GE 368; EH 377, 383).

He described the operation of this Davis machine (GE 368):

> "when the tub was filled as per manufacturer's specifications, we expected there would be water

above the surface of the clothes, **and as the agitator or scrub-board was lowered** and the motor turned on, the agitator threw the water out to the sides of the tub and then it went down through and up again. That allowed the agitator to lower itself. **As the water came up part of it climbed on top or got on top of the agitator and helped to submerge it into the clothes,** and in its washing action there **was a relatively small amount of water motion and considerable rubbing.**"

Behan said that in the sale of the Davis machines it was the 1900 Company's "practice to advocate as large a load as possible to meet the commercial requirements," and that the demands were for machines that had a large clothes capacity (GE 372).

Behan was familiar with the Maytag gyrator type machine (shown in the Snyder patent in suit) when it first came on the market in 1922 (GE 370). At that time his company and various other companies were selling machines of the prior types such as the peg dolly, rubboard, oscillator, cylinder and vacuum cup. They were the only types that he knew of (GE 370), and none of them were being sold at the time he testified (GE 371).

Prior to the abandonment of these types of machines (EH 351-2; GE 349, 325), the 1900 Company did a lot of experimenting (EH 370-1; GE 372, 324-5, 350). This was before putting out its new gyrator type machine (D. E. 12, EH 1343, Of. 405; D. E. 38, GE 1803, Of. 338). It had one of the Maytag gyrator type machines in its factory while carrying on these experiments (EH 370; GE 324-5). It has since sold hundreds of thousands of this type (GE 356), under license of the Snyder patent (EH 386; GE 378), 100 F. (2d) 218, 224, C. C. A. 8.

Defendant's witness Quinn testified to the same general effect as Doughty and Behan (EH 424-7; GE 334-5, 337).

The Machine of the Davis Patent Will Not Wash Clothes in the Manner Stated Therein.

Because the Court of Appeals for the Second Circuit in its decision in the *Brooklyn Edison* case, on "the authority of" which the *Easy* and *Hurley* cases were decided, relied on the statements purporting to describe the operation of the Davis patent machine instead of the undisputed testimony, the findings of fact of the trial courts, and the actual operation of the **machines** themselves, defendant's witnesses were more fully cross-examined in the *General Electric* case with respect thereto. Their testimony in the latter case even more conclusively shows that the machine of the Davis patent did not and could not operate to wash clothes in the manner described in it, and that Judge Otis and the Court of Appeals for the Eighth Circuit were correct in so finding and holding.

Davis says in his patent (EH 919, GE 1057) that he provides—

> "an agitator having a **novel arrangement of vanes** on the **lower** or active **surface** thereof which operate to **direct** the water outwardly by centrifugal force **thereby setting up a circulation downwardly** within the tub adjacent the wall thereof, and thence upwardly through the fabrics in the tub **to the center of the space below** the agitator" (p. 1, lines 13-21),

and

> "an agitator designed to **float upon the water** . . . which will not only serve to set up a **circulation of water** as stated, but will also **rub** lightly upon the fabrics without danger of injuring them" (p. 1, lines 22-27),

and also provides—

> "means in connection with the agitator disk [rubboard] to **prevent churning** of the washing fluid" (p. 1, lines 29-31),

and to eliminate

> **"eddies and other current irregularities** preventive of a high degree of efficiency" (p. 1, lines 84-86).

He also says that with the operation of his disk (rubboard) **a suction is created under its center**

> "with the result that **the water displaced upwardly by this suction will force its way through the fabrics**" (p. 1, lines 107-110),

and that the ribs on the "freely movable vertically" disk **"act as rubbing elements"** (p. 2, lines 31, 5-6).

The intent of this Davis patent plainly is to operate the slidably mounted disk (rubboard) slowly so as to merely "direct the **upper portion** of the water outwardly" toward "the wall of the tub" and to draw water [by **"suction"**] upwardly from the center of the bottom thereof (claim 1, p. 2) "through the fabrics" with the agitator disk (rubboard) which **floats on the water,** and to so operate it as "to **prevent churning** of the washing fluid" and to eliminate **"eddies** and **other current irregularities."**

The specification and claim clearly indicate that Davis thought that he could clean a **stationary mass of clothes** located in the tub **beneath** the agitator disk (rubboard) by **mere circulation of water** and **creating a suction** beneath the rubboard, **without circulating or moving the clothes** about in the tub.

The Davis patent fails to contain the slightest suggestion of washing clothes by vigorous water action which suspends the clothes and moves them freely about and rolls them over and over in the tub. The evidence of plaintiff and defendant alike conclusively

shows that clothes cannot be washed in the manner stated in the Davis patent.

It is significant that while defendants put one of the Davis machines (D. E. 20, Of. GE 422) in operation before Judge Otis, neither they nor their expert attempted to wash clothes in this machine or in any of the prior art machines upon which they rely. Any attempt to wash in that machine with the rubboard floating on the water as called for by the Davis patent would result in complete failure. This is shown by the testimony of housewives who attempted to wash in similar rubboard machines with so little success that they abandoned them, and often washed by hand in preference to using them (EH 225-6).

In this connection it is interesting that after the Patent Office had rejected the claims originally filed by Davis, he amended his specifications (GE 887, 889, 899) to insert the object of providing **"means in connection with the agitator disk to prevent churning of the washing fluid"** (p. 1, lines 28-31) and to eliminate **"eddies and other current irregularities preventive of a high degree of efficiency"** (p. 1, lines 84-86) in order to secure the single limited claim of his patent which reads (GE 1058):

> "In a washing machine the combination with a tub, of an agitating disk **mounted to float** on water in the tub, radial vanes upon the **lower face** of the disk adapted, when the disk is rotated, to **direct the upper portion of the water** outwardly by centrifugal force toward the wall of the tub and **to draw water upwardly from the center of the bottom thereof,** and a driving shaft for actuating the disk, said **disk being freely movable vertically.**"

Defendants' expert Taggart testified that the statements contained in the Davis patent to the effect that clothes were washed by the circulation of water "without being pulled or distorted" were not true with re-

spect to this machine (GE 261, 266), and that the statement in that patent (p. 1, line 83, GE 1058) that "eddying currents and other current irregularities were prevented" was not true of Davis' machine (GE 262). This is fully confirmed by plaintiff's witness, Kenerson (GE 528-9).

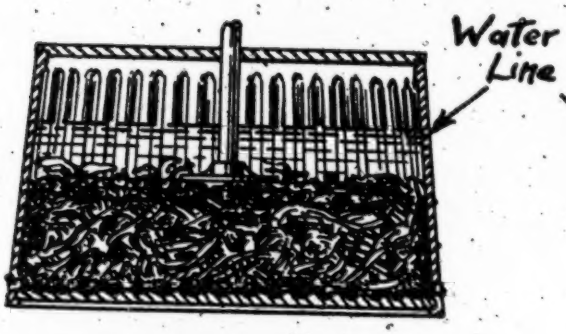
Defendants' witness Doughty, who with Davis sought to improve the abandoned Davis machine, when asked to examine the Davis patent and to state whether or not the description in it represented the water action which took place in the 1900 Company's Forms 1, 2 and 3 machines, said (GE 360):

> "The description of the circulation found here in the body of the specifications describes a circulation outwardly under the agitator, downwardly within the tub walls, and thence upwardly through the fabrics in the tub and to the center of the space below the agitator. **I do not believe that the machine in actual practice would create those currents except when the agitator was held up from descending, or I might say it might create those currents at the instant that the agitator, or while the agitator was at the surface of the water, but the moment it settled down into the clothes I think those currents would disappear.**"

This testimony of defendants' witnesses read in connection with the testimony of plaintiff's experts (Yeomans, EH 302-6, and Kenerson, GE 521-4) concerning the operation of the 1900 Company's machines made under the Davis patent, fully supports the finding of Judge Otis (Finding 18, GE 30, App. 40).

> "That the machine shown in the Davis patent will **not** operate or wash clothes in a manner described in its specification, is further shown by the testimony of defendant's fact witnesses, by plaintiff's demonstrations of these machines before the Court, and by the testimony of plaintiff's and defendant's experts . [See Taggart, GE 261-2; Kenerson, GE 521-4; 100 F. (2d) 218, 221.]"

The Davis and Snyder Machines Are Radically Different in Construction and Operation.



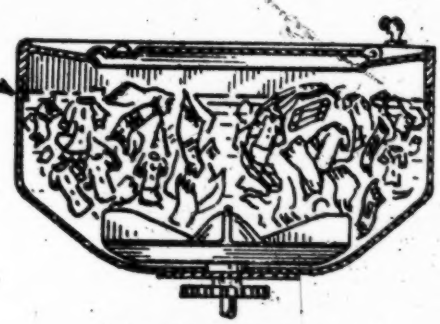
Davis Machine.

Notice the rubboard **slidably** mounted in the top which slides down and compresses the clothes into a mass and washes by rubbing and squeezing this mass between the rubboard and the bottom of the tub.

Davis has:

A tub having **corrugations** on the interior of the bottom and/or sides of the tub,

A vertically movable, slidably mounted rubboard of substantially the same diameter as the interior of the tub with no rollover zone. It is so made as to engage the entire upper surface of the clothes, compress them into a mass and rub, squeeze and drag them about against the corrugated interior of the tub,



Snyder Machine.

Notice the water impeller mounted in the bottom of the tub for operation in a **fixed** plane whereby the clothes are washed as individual pieces while suspended and moved freely about in and by the violent water action.

Snyder has:

A **smooth** interior tub,

A water impeller mounted for operation in a **fixed plane at the bottom of the tub having a circular base of considerably less diameter than the body of the tub so that its periphery is spaced a substantial distance from the smooth interior of the tub** to permit a free outward movement of the water to provide a zone in which the clothes could be rolled over and over as they are washed by the vigorous water currents,

No upwardly projecting dome at the center of the rubboard. Low rounded rubbing cleats 7/8 of an inch (which created little "water motion"), such as were commonly used on all rubboard machines for rubbing and dragging the mass of clothes against the interior of the tub at slow speed,

A centrally projected dome or stem. A plurality of equally spaced impeller blades leading therefrom of substantial height and lateral area projecting upwardly from the upper surface of the base of the impeller to enable a large amount of water to be vigorously moved about in the tub as the impeller was rapidly oscillated,

A vertically movable drive shaft to which the rubboard was attached so that it was **free to slide down** into contact with the mass of clothes which it compressed in operation,

A drive shaft **not movable vertically** for supporting and oscillating the impeller in **a fixed plane**, extending through the bottom of the tub,

A gearing for **slowly** oscillating the vertically slidable shaft on which the rubboard was mounted after it had **slid down** into contact with the clothes and for continuing its operation as it compressed the mass and rubbed, pounded and squeezed the clothes for washing them.

A gearing and rack bar below the tub connected to a motor for **rapidly** oscillating the impeller **in a fixed plane** to create vigorous water currents to flex and drive the clothes about in the water and wash them while substantially suspended therein.

The Davis disk (rubboard) **slowly rubs** and **drags the clothes about in a mass** in washing them. He says in his patent that this disk is so operated as to eliminate **"eddies and other current irregularities"** and to wash the clothes **"without churning of the washing fluid."***

Snyder's impeller (gyrator) is so constructed and operated at **rapid speed** as to **"churn"** the water and create violently flowing currents of water for sus-

***See Webster's New International Dictionary—Churn, "to shake, stir or agitate violently"; "to produce or be in violent or continuous agitation."**

pending the clothes whereby they are "whipped, whirled and dashed about in the sieving, whirling, turbulent action set up by the gyrator" (Patent, p. 5, line 19; EH 664; GE 573).

These two operations are entirely different.

During the prosecution at the Patent Office, Snyder pointed out substantially the same reasons, as here urged, why the Davis patent did not disclose the Snyder invention (see File-Wrapper, EH 1143, 1158-9; GE 1325, 1355-7).

That Davis did not show a machine which would wash by water action, and that his machine was not "capable of producing the result sought to be accomplished" by Snyder is proved conclusively by the evidence (EH 303-12, 166; GE 359-60, 347-50, 367-8, 374, 521-4, 261-2, 88, Finding 18, 27-30, App. 37-41). His machine taught the 1900 Company's engineers nothing concerning the gyrator type machine, for with full knowledge of this Davis patent they spent a long time experimenting, with the Maytag machine in its plant, before it copied and put into production its gyrator type machines (D. E. 12, EH 1343, Of. 405, 370; D. E. 38, GE 1803, Of. 338, 324-5, 370-2) now being manufactured and sold by the 1900 Company under license of the Snyder patent (EH 386; GE 378).

The Davis patent is but an example of the old rubboard type of washer. It did not help in the solution of the problem which had confronted the washing machine industry for more than a century prior to the Snyder invention. It fails to satisfy the requirements for anticipation of that invention. *Cantrell* v. *Wallick,* 117 U. S. 689; *Radio Corp.* v. *Radio,* 293 U. S. 1; and cases cited under points IX, X and XI, pp. 40-1.

(B)

The Doughty & Davis Patent No. 1,496,305 and Machines Made Thereunder Too Late To Anticipate Snyder and Do Not Utilize His Invention.

The evidence shows, and Judges Byers, Otis, and the Eighth Circuit Court of Appeals each found:

1. That Snyder made his invention and reduced it to practice more than eight months before there was any disclosure of the machine shown in the Doughty & Davis patent (11 F. Supp. 743, 757, Finding 26 [GE 855]; App. 10; EH 364, 437-42, 562-3, 567-70, 594-5, 621-3, 588-90, 647-51, 635-8; Finding 27, GE 37-8, App. 50-2; GE 340-2, 299, 124-5, 423-5, 445-6, 453-4, 457-9).

2. That the machine of the Doughty & Davis patent does not utilize the Snyder invention (11 F. Supp. 743, 751-2; EH 315-18, 439-41, 451; Finding 23, GE 34-6, App. 47-50; GE 536-7, 256).

(1) Snyder's Disclosure and Reduction to Practice Was Long Prior to the Conception or Use of the Machine of the Doughty & Davis Patent.

Defendants' briefs on appeal in each of the cases below ignored the fact that all of the witnesses who testified concerning Snyder's early work appeared in person before Judge Byers in the *Brooklyn Edison* case, and Judge Otis in the *General Electric* case, and the Second Circuit Court of Appeals disregarded their findings, with respect to this work, which are well summarized by Judge Otis in his Finding 27 (GE 37-8; App. 50-52):

> "The testimony taken in open court of the witnesses Bradt, Miller, Stephan, Mooar, Thornton and Mason establish the fact that Snyder reduced his invention to practice in a wooden tub machine,

made by Miller under his direction, in May of 1920. The evidence also establishes that this machine was successfully operated in May, 1920, to carry out the Snyder invention in the experimental department of The Maytag Company; that during the latter part of May and immediately following it was used sucessfully to wash clothes at the home of a washer-woman by the name of Mrs. Ellingsworth, in Newton, Iowa; and that Snyder also fully disclosed the invention to these witnesses during May of 1920 and to Mr. Mason on January 21, 1921, and subsequently. After making this machine, Mr. Snyder carried on a series of experiments with his invention.

"Before October, 1921, Mr. Miller, at Snyder's request, revamped one of The Maytag Company's Model 70 aluminum tub dolly type machines. He incorporated in it an impeller substantially like that shown in the Snyder patent drawings and operated it by a shaft extending downwardly through the bottom of the tub. This shaft was driven through a pinion and rack bar from a power leg taken from the Model 70 machine by a motor also mounted beneath the bottom of the tub. This machine (P. E. 8a) was used for washing clothes at Mrs. Ellingsworth's place in October, 1921, in the presence of a number of witnesses and resulted in Snyder's securing the consent of Mr. Fred L. Maytag, President of The Maytag Company, and its Board of Directors, to proceed with the manufacture of these machines for sale. This was followed by the completion of four of these machines made in close resemblance to the Snyder patent drawings. Sales of these machines immediately followed. Plaintiff has since that time sold only this type of machine. It has abandoned its previous old types.

"Snyder's reduction to practice and use of his invention in May of 1920 was more than eight months before the earliest date claimed by defend-

ant for the disclosure or use of the 1900 Company's Form 4 machine made under the Doughty and Davis patent. The Doughty and Davis machines can not be used as an anticipation of Snyder."

This finding is amply supported by the testimony and should be given the benefit of the rule laid down by this Court in *Adamson* v. *Gilliland,* 242 U. S: 350, 353, where the Court said:

> "Considering that a patent has been granted to the plaintiff the case is preeminently one for the application of the practical rule that so far as the finding of the master or judge who saw the witnesses 'depends upon conflicting testimony, or upon the credibility of witnesses, or so far as there is any testimony consistent with the finding, it must be treated as unassailable.' *Davis* v. *Schwartz,* 155 U. S. 631, 636. The reasons for requiring the defendant to prove his case beyond a reasonable doubt are stated in the case of *The Barbed Wire Patent,* 143 U. S. 275, 284." See also cases under point I, *supra,* p. 35.

The Testimony Supports the Findings that Snyder Made His Invention Before Any Date that Can Be Claimed for Doughty & Davis.

The earliest date that can be claimed for a conception, disclosure or reduction to practice of the Doughty and Davis machine was on February 8, 1921 and/or March 22, 1921 (EH 364, 437, 442, 1312, 1320; GE 340-2, 299, 1717, 1733).

Snyder's Work Preceded this by More than Eight Months.*

George Miller after being out of the employ of The Maytag Company for some months in 1919 on account of ill health, returned December 1, 1919 (EH 559; GE

*** Snyder died in 1927 (EH 617; GE 123).**

422-3). After working for five months on the outside, he re-entered its experimental department on May 13, 1920 (EH 562; GE 422-3). This is shown by plaintiff's employment cards (EH 570; GE 803-7). The day after his return to the experimental department, Snyder asked him to build and he started to build a machine which embodied the invention* of the patent in suit.

For this purpose Mr. Miller used a wooden tub of the type plaintiff had been using in connection with its peg dolly type machines having a diameter of about 23 or 24 inches (EH 563; GE 434). He had Joe Stephen, head of the blacksmith shop, make a metal disc approximately 15 inches in diameter (substantially less than the diameter of the tub), having a downwardly extending flange at its outer edge (EH 563, 594; GE 423, 445). To the top of this disc he secured three equally spaced radially arranged blades (paddles) about five inches long and one and one-half inches high, thereby completing the water impeller. He placed this **impeller in the central portion of the bottom of the tub** "with its margin spaced a substantial distance away from the upwardly extending portion of the tub," and with just enough clearance between it and the tub bottom to allow it to operate freely in a **fixed plane** (EH 563, 636-7, 621-2, 602; GE 423, 434, 445, 454). He mounted this impeller on the top of a shaft which extended downwardly through the bottom of the tub, and provided this shaft with a gear at its lower end. He attached to the side of the tub a power leg taken from a model 70 machine then under construction (EH 563; GE 423, 434, 490), and so changed

*** The invention had been previously disclosed to Bradt (EH 618-623; GE 124) and Mooar (GE 435, P. E. 25, GE 741-3, Of. 485).**

it as to adapt it to drive a rack bar mounted beneath the tub which meshed with the gear on the lower end of the impeller shaft for oscillating it. He so mounted a motor beneath the tub as to drive the rack bar and water impeller through the power leg and so geared these driving parts as to oscillate the disc at a greatly increased speed over The Maytag Company's previous dolly types (EH 565; GE 425, 125).

After this machine was successfully operated in the experimental department of The Maytag Company in the presence of Snyder, Bradt, Thornton, Miller, Herbst and Mooar in 1920 (EH 602-3, 621, 636-8, 648-651; GE 124-5, 454, 423, 434), it was sent out to Mrs. Ellingsworth's place in Newton, where she did regular washings with it, and where its operation was observed and followed by Snyder and Miller (EH 565; GE 423-5). After it had been at her place for a short time, it was returned because the rack bar broke (EH 565; GE 424). This was repaired and the machine returned to Mrs. Ellingsworth's, where it was continued in operation for some time, and where it was seen by Miller during 1920 on several occasions. It was later returned to the factory (EH 565-6; GE 424).*

In this machine when the tub was filled to the water line and the electric current was turned on for operating the motor, the impeller was oscillated rapidly (52 to 58 oscillations per minute, EH 565; GE 425). This caused the water to be forced vigorously outwardly,

* Mr. Miller's testimony is fully corroborated by Bradt, Stephen, Mooar, Herbst and Thornton, whose recollections of dates are confirmed by their employment cards and contemporaneous events (EH 620-3, 594-5, 602-3, 636-8, 648-651; P. E. 171, EH 809, Of. 558, P. E. 172, 172A, 173, Of. EH 558, P. E. 174, 175, 175A, 176, EH 810-814, Of. 558, P. E. 183, 184, EH 816-17, Of. 558; GE 124-6, 481-5, 445-6, 433-5, 453-4; P. E. 31A-F, GE 803-7, Of. 481, P. E. 32, GE 809, Of. 482). Mr. Thornton, a witness no longer connected with

upwardly, inwardly and downwardly, first in one and then in the opposite direction. When the clothes were placed in the water they were driven about in, and by it, and were rolled over and over and thoroughly washed while suspended by the vigorous water action (EH 565, 621-2, 637-8, 653-4; GE 125, 423, 454).

Following the construction and successful operation of his wooden tub machine in 1920, Snyder carried on numerous experiments (EH 567-8, 650-2) to put his invention in the best possible commercial form, and during the summer of 1921 he had Miller equip one of plaintiff's model 70 smooth interior aluminum tub machines with a four bladed metal impeller mounted at the bottom of the tub and driven from beneath the tub by a mechanism similar to that used with his wooden tub machine (EH 623, 626, P. E. 173, Of. EH 558; GE 425-8, P. E. 8A, Of. GE 135).

After this machine was completed, it was also sent to Mrs. Ellingsworth's where it was used for regular washings. It was observed in actual operation there by Fred L. Maytag, Miller, Sparks, Bradt and Snyder (EH 330, 567-570, 626-628; GE 127, 426). It was concerning this machine that Snyder wrote to Fred L. Maytag, Chairman of the Board of Directors of The Maytag Company, as follows (P. E. 184, EH 817, Of. 558; D. E. 12, GE 1035, Of. 139):

"October 16th, 1921.

"F. L. MAYTAG,

"*Chairman of the Board:*

"I want you to know that as soon as you return

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the plaintiff company, and who testified about the construction and operation of this machine, was connected with the plaintiff company only between March 26, 1919, and October 15, 1920, and has never since been in Newton (EH 635; GE 453-4, 803).

you can see the new washer in operation at Mrs. Ellingsworth's. As I mentioned to you I have put the agitator in the bottom of a model 70 aluminum tub and it gives much better water action than in the flat bottom wood tub. I also added another blade.

. . . . . .

"HOWARD F. SNYDER."

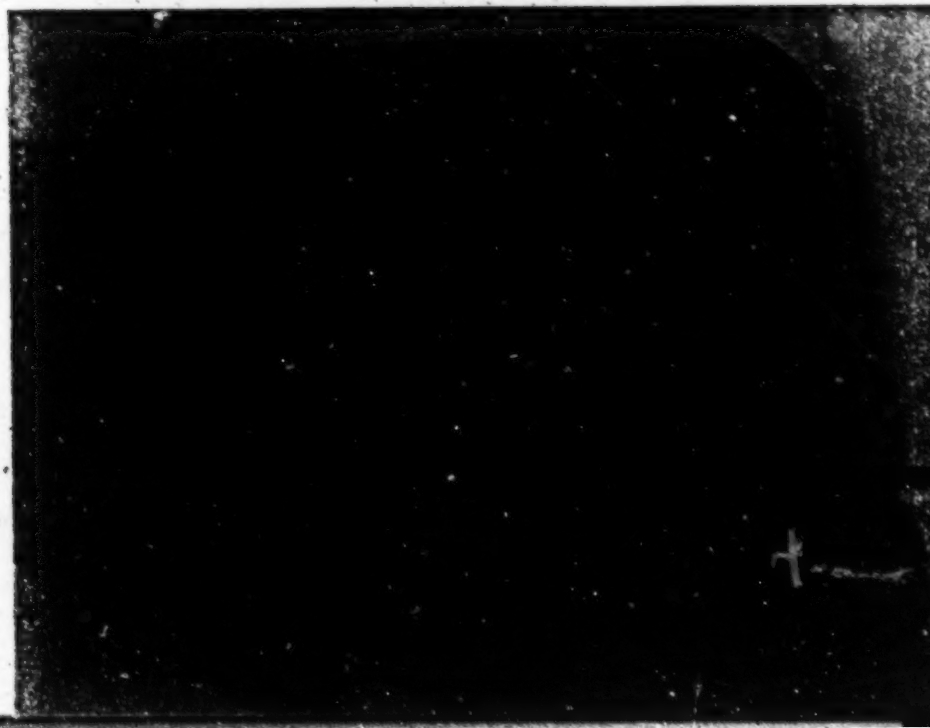
Photographs of this machine (P. E. 173, Of. EH 558; P. E. 8A, Of. GE 135) are reproduced on the following page.

Fred L. Maytag, although previously opposed to putting such a novel construction on the market, after seeing the machine in operation at Mrs. Ellingsworth's in October, 1921, immediately gave orders to proceed with its production (EH 330; GE 127-8). The first four machines were completed in February, 1922 (EH 628, 330; GE 128, 89). The Snyder patent drawings were made from one of the early machines (GE 461) and one of these machines is in evidence (EH and GE, P. E. 9, Of. EH 160, GE 118). This machine, in substantially the same form, has been made continuously since by the plaintiff company who shortly after its introduction abandoned all previous types (Findings 6 and 27 of Judge Otis, GE 25, 37-8, App. 34, 50-1, 81; EH 155).

The testimony further shows that aside from the construction, reduction to practice and disclosure to others of the invention in May, 1920, Snyder had disclosed his invention to Bradt just before Christmas of 1919, who fixes the date by his return to the company after his service in the army and by other contemporaneous incidents and records which cannot be questioned (EH 618-9; GE 123-4).

Before testifying in the *General Electric* case, Bradt

PHOTOGRAPHS OF SNYDER ALUMINUM TUB GYRATOR MACHINE,
(P. E. 173, Of. EH 558; P. E. 8-A, Of. GE 135).



found in a dismantled experimental department of The Maytag Company an old box containing some rough sketches illustrating Snyder's proposed impeller construction. These sketches were on the back of the last two sheets of a letter written The Maytag Company by Parkinson & Lane on December 9, 1919, and bear the date December 17, 1919, and Snyder's name in his handwriting (P. E. 25, GE 735-43, Of. 485). They were also witnessed by David L. Mooar on December 19, 1919, and bear his signature and that date (GE 435). This was shortly before Snyder first explained his invention to Bradt (GE 124).

In January, 1921, Snyder described and disclosed his invention to Mason, and Lane attorney for The Maytag Company, in Lane's office in Chicago, and its construction was pointed out in connection with the photograph of the Siamese Twin machine (P. E. 210, EH 832, Of. 558; P. E. 27-1, GE 777, Of. 458) and the machine of the Snyder 1916 application (D. E. B, EH 1039, Of. 344; P. E. 30, GE 800, Of. 480) which was then being amended (EH 640-3; GE 457-9).

The machine was further described to Mason at subsequent interviews fixed by his diary, and on October 18, 1921, it was again disclosed to him. At that time Snyder told Mason that he had a machine in use with an aluminum tub instead of a wooden tub, which he had been using theretofore, and that this tub and the impeller in it were like that which he described to him in detail on January 21, 1921* (Judge Byers Finding 26, GE 855, App. 10, 11 F. Supp. 743, 757; Judge Otis Finding 27, GE 37, App. 50).

*** Snyder had in 1917 previously described in a rough way the invention to Mason when he first met him when Mason was asked to examine the cylinder machine of The Maytag Company at the Coliseum in October, 1917, shortly after Mason was employed by Parkinson & Lane (EH 639-40; GE 456-7).**

(2) The Machine of the Doughty & Davis Patent Neither Has the Construction Nor Is Capable of the Operation Disclosed and Claimed by Snyder.

Defendant produced a drawing claimed to represent the device of this patent, dated March 22, 1921 (D. E. 9, EH 1320, Of. 368; D. E. 38, GE 1733, Of. 338), which was sent by that company to its attorney, Merrell E. Clark, in a letter dated March 23, 1921, heretofore referred to *supra,* p. 73 (EH 1316; GE 1725). Defendant has also introduced as a part of its D. E. 9 (EH 1312-3) and D. E. 38 (GE 1717), a document dated February 8, 1921, entitled "Test of Whirlpool Washer."

The evidence shows that the making of this Doughty and Davis machine was an attempt to overcome the difficulties incident to the use of the Davis 1900 Company's rubboard machines heretofore discussed (EH 1317; GE 1727). In pointing out the differences between the new structure and that of the Davis patent, Doughty in his letter to Mr. Clark, shows the disadvantages incident to the use of the Davis machine and the manner in which it worked as already pointed out, where he says in referring to the Davis machine (EH 1317; GE 1727):

> "Another advantage results from the avoidance of an action which occurs in the top agitator machine which causes the **agitator to sink in the water and restrict the free movement of the clothes.** The reason for this objectionable action is this; the vanes on the agitator when in motion cause the water to flow from the center toward the side of the tub. Consequently, **the center is lowered and the agitator,** which is only held in position by floating upon the water, or by the supporting effect of the clothes, **is drawn down with the result of compressing the clothes, restraining their free movement** and increasing the power required to operate the washer."

He also points out the purpose of his new device which provided **unsymmetrically arranged vanes to prevent the clothes from remaining in a state of rest at the center of the tub** as they did in the old Davis machine with its equally spaced rubbing cleats (EH 1317; GE 1727).

The opinion of Judge Byers (11 F. Supp. 743, 751-2) adopted by Judge Otis (GE 555) and that of the Court of Appeals for the Eighth Circuit (100 F. (2d) 218, 223-4) and the findings of Judge Otis, make perfectly clear why the Doughty & Davis patent and the machines made under it do not meet the Snyder claims in suit. This is sufficiently shown by the findings of the latter (Finding 23, GE 34-6, App. 47-50):

> "In the machine shown in the Doughty and Davis patent and as embodied in the Form 4 machine made under it, there is an agitator or rubboard of substantially the same diameter as the interior of the tub mounted at its bottom for oscillation. There is just enough clearance around the circumference of the rubboard to permit it to operate on the interior of the tub. On the upper surface of the rubboard there are six equally spaced triangular rubbing cleats, approximately seven-eights (7/8") inch in height, grouped about one side of the rubboard base and a wide space left between the nearest two on the opposite side of the base. This rubboard was operated at the same speed as the rubboard machine of the Davis patent (forty oscillations per minute). The testimony of defendant's witnesses shows that this machine was made to overcome the difficulties incident to the use of the machine of the Davis patent, in which the agitator sunk in the water and restricted the free movement of the clothes, and in which the agitator was 'drawn down with the result of compressing the clothes' and 'restraining their free movement.' [GE 350.]

"Mr. Doughty eliminated the symmetrical arrangement of vanes of the Davis rubboard and arranged his unsymmetrically. He states his reason (Patent, p. 2, line 11):

> "'The purpose of so arranging the vanes is that we have found that if the agitator surface is symmetrical there is a marked tendency for a single one of the many pieces of laundry in the tub to cling to the agitator, an action which interferes seriously with the efficiency of the machine in washing.'

"He also states that with symmetrically arranged vanes of the Davis patent there is a tendency—

> "'to stretch the most available piece of laundry over the surface of the agitator and keep it there.'

"He further says (p. 2, line 29):

> "'We have discovered, however, that by **arranging the agitator unsymmetrically the equality of the currents** is disturbed and as a result the piece of cloth in contact with the agitator will **not be retained** there but **will be moved off to one side** of the unequal currents acting upon it.'

"There is nothing in this patent to suggest or intimate the vigorous flow or action of the water or substantial suspension of the clothes in the water while the washing operation is going on. Mr. Doughty testifies that the purpose sought in the unsymmetrical arrangement of the blades was—

> "'to cause the clothes to be operated on **in an irregular** manner and prevent them from remaining in a state of rest at the center of the tub.'" [GE 351.]

"and in the use of the unsymmetrically arranged vanes there was

> "'a **more or less** quiet zone in the washer created by the lack of the vanes'

"and that the **outflow** between the widely spaced

vanes was less than that at other points, so that it made a less movement of the water at the place affected by this wide separation of vanes.

"Mr. Doughty testified that the 1900 Company advocated washing as many clothes in these machines as they would hold when washing them, and that it was the general tendency at that time to stress the large quantity of clothes which could be handled in a single operation. [GE 353-4.]

"The fact that the rubboard of the Doughty and Davis machine is of substantially the same diameter as the interior of the tub, that it has low rubbing cleats about seven-eighths (7/8") inch high, unsymmetrically arranged for the purpose of obviating the difficulties which are said to be present if used with equally spaced rubbing members, such as disclosed in the Davis patent and that these machines were operated at slow speed, shows that it neither embodied the structure nor utilized the operation disclosed, described and claimed in the Snyder patent.

"This machine was abandoned by the 1900 Company after it had made approximately 700 of them (a little more than a day's output for that factory). Defendant's expert testifies with respect to this machine that:

> "'In that machine clothes are pounded, rubbed, dragged and squeezed in the washing operation.' [GE 256.]

"Following its substantial abandonment in 1922, the 1900 Company carried on a large number of experiments with the Maytag gyrator machine in their experimental department, and finally adopted and has sold hundreds of thousands of its gyrator type machine shown in Defendant's Dep. Exhibit 12 (now part of Deft.'s Exhibit 38), [GE 356], under license of the Snyder patent.

"Davis testified, with full knowledge of the gyrator type machine made under the license of the Snyder patent, that the 1900 Company is not man-

ufacturing any machines like its Forms 1, 2, 3 and 4 machines at the present time. [GE 325.] (In connection with this Finding, see Judge Byers' Opinion, [GE 834] in Pl.'s Ex. 34.)

"The Snyder washing machine with its impeller having a base of substantially less diameter than the upper portion of its tub and having blades of substantial height and lateral area and operating this at high speed to impel the necessary amount of washing fluid so vigorously and in such a manner as to substantially suspend the clothes by the water action while washing them, is clearly distinguished from the structure and disclosed operation of the Doughty and Davis machine."

(C)

The Jardine British Patent No. 18,202 of 1891 (EH 937; GE 1047).

The device shown in this foreign patent is another form of the old **"dolly type"** in which the clothes were dragged through the water in a mass and scrubbed against rubbing cleats. In 1891 when Jardine took out her British patent, a "dolly" was then and now is known as a "wooden instrument used to beat or stir clothes in the process of washing." It is so defined in Webster's New International Dictionary. Therefore, when Jardine describes her operating element as a "dolly" seventeen times, she plainly said to the industry that it "was a wooden instrument which beats or stirs the clothes in the process of washing."

It is inconceivable that this machine could or did suggest a solution of the problem solved by Snyder when the washing machine industry, with presumed knowledge of this structure, had been struggling to overcome the very difficulties which are necessarily incident to its use. Its claims largely relate to the particular

> "non-revolving hoop or rim arranged with flanges and sockets, stayed and controlled by perpendicular pins and supported on springs" (p. 2, lines 48-9; EH 938; GE 1049)

to prevent damage which might otherwise occur by the clothes being caught between the rim and the bottom of the machine and dolly as they were dragged about by the dolly on the interior of the tub.

The **"dolly"** of the machine is shown (EH 941; GE 1053) **to be operated from the top** and has a series of vertical ribs or projections b^2, b^2 throughout its entire height. **The tub has a series of wide vertical ribs marked a^1, a^1 in the drawings extending from the top of the interior of the tub to a point slightly above the bottom.** The plain purpose of thus positioning them is to have them coact with the dolly ribs b^2, b^2, when clothes are placed in the machine between them, for thoroughly rubbing and scrubbing them in the manner of the then well known "dolly" machines (EH 319-20; GE 529-31).

As the "dolly" is swung back and forth **by hand** the clothes are rubbed on both sides between the dolly and the vertical ribs on the interior of the tub and thereby get a washing action on both sides. This machine plainly operated by the "dolly" rubbing, scrubbing, pounding and squeezing the clothes which were placed between the dolly and the vertical ribs on the interior of the tub (EH 320; GE 530, 537-8). Taggart testified that this "is definitely the fact" (GE 256).

It is but a counterpart of numerous others which neither disclosed, described nor suggested the Snyder invention.

There is nothing in it to indicate the operation of the machine in such a way as to create velocity of water flow or a vigorous water action. (EH 320-1; GE 529-

31, 537-8). **There is nothing which contemplates washing the clothes while they are substantially suspended in the water by the water action.** Indeed, any such operation would defeat the purposes of the wide ribs vertically spaced on the interior of the tub which are as plainly there for the purpose of aiding the rubbing and scrubbing of the clothes between them and the dolly as were the corrugations in the tub generally used with the dolly type.

The Jardine patent taught nothing to the skilled mechanics of the washing machine art prior to the Snyder invention, and none of them ever used the very feature upon which Jardine secured her patent, to-wit, the spring supported rim to keep the clothes from getting beneath the dolly, essential only when large batches of clothes were placed in the tub and the operation was carried out by rubbing, dragging and squeezing the clothes (EH 319-20; GE 530, 537-8).

The Court of Appeals for the Eighth Circuit said (100 F. (2d) 218, 224):

> "This is a dolly type of machine. . . . There is nothing in this device to suggest a solution of the problem solved by Snyder. The dolly of the machine is said to be operated from the top, and has a series of vertical ribs or projections throughout its entire length. The tub has a series of wide vertical ribs extending from the top of the interior of the tub to a point slightly above the bottom. It was clearly a rubbing and scrubbing machine. It contained no suggestion of washing clothes while substantially suspending them in water by vigorous water action, or washing them by water action, as distinguished from rubbing, pounding, squeezing, compressing, and dragging them, as was done by the dolly type of machines of 1891 and subsequently. We think there is nothing in the teaching of this patent to suggest Snyder's device."

Judge Byers (11 F. Supp. 743, 752, EH 94; GE 835) said:

> "One can read the Jardine patent closely and often and yet not find any teaching whatever of a device to perform the operation of washing according to what Snyder says he invented. Jardine's instruction was of a means to prevent the mangling of fabrics beneath the disc. The presence of the ribs in the tub, and the necessary squeezing of fabrics against them by the blades of the agitator, are too clearly indicated by this patentee to admit of misunderstanding."

Judge Otis' attention was called to the erroneous statement contained in Judge Manton's opinion in the *Brooklyn Edison* case with respect to this Jardine patent (86 F. (2d) 625, 629, that):

> "The British patent to Jardine of 1891" comprised "A tub, a bladed agitator, and driving mechanism to impart motion to the agitator. They are also characterized by the absence of rubboard surfaces within the tub and by a vigorous agitation of water by the agitator. The only rubbing that occurs is between the clothes and the agitator. . . . The vertical ribs or projections on the inner surface of the tub have no functions and do not affect the washing operation when the agitator is reciprocated instead of being revolved."

With full knowledge of this erroneous statement, Judge Otis properly found (Finding 19, GE 31, App. 41-3):

> "There is no suggestion or intimation in the patent that the vertical ribs on the interior surface of the tub have no functions and do not affect the washing operation. Their presence in the drawings and specification clearly indicates the contrary. There is nothing to indicate or suggest that the only rubbing that occurs is between the clothes and the agitator."

"There is not the slightest disclosure or suggestion in this foreign patent for operating the dolly either in a fixed plane or by a reciprocating mechanism mounted beneath the tub."

"The record is absolutely silent as to whether any of these [Jardine] machines were manufactured or sold."

"There is no suggestion [in Jardine] of washing clothes while substantially suspending them in water by vigorous water action, or washing them largely by water action as distinguished from rubbing, pounding, squeezing, compressing, and dragging them, as was done by the well-known dolly type machines of 1891 and subsequently."

Judge Otis also pointed out in his findings that the defendant's demonstrations made in connection with the discussion of the Jardine patent were of little probative value as the machine produced by the defendant for this purpose did not clearly represent that structure, and while incorporating in it many features not present in Jardine, eliminated the very feature on which that patent was obtained (Finding 19, GE 31-2, App. 43-4).

The Jardine patent cannot be made over into the equivalent of Snyder by taking out its ribs, which are essential to its operation (as defendant attempted to do), or by reorganizing it in any manner whatever. Even if such a reconstruction could produce (which it could not) the Snyder machine, his patent cannot be defeated in that manner.

"Such [prior] patents cannot be reconstructed in the light of the invention in suit, and then used as a part of the prior art." *Naylor* v. *Alsop Process Co.*, 168 Fed. 911, 920 (C. C. A. 8). See also cases cited under IX, *supra*, p. 40.

"A foreign patent is to be measured as anticipatory, not by what might have been made out of it;

but by what is clearly and definitely expressed in it." *Carson* v. *American,* 4 F. (2d) 463, 465, C. C. A. 9.

(D)

The Other Art Referred to by Defendants in the Lower Courts.

There is no suggestion in any of these prior patents that the clothes are washed by vigorous agitation of the water by an agitator or that they are washed while suspended by the action of the water as called for by Snyder. They aptly illustrate the struggle of various inventors to minimize the wear and tear on the clothes while they are being dragged about on the interior of the tub and rubbed and scrubbed between their dollies and the large vertical projections and corrugations on the interior of the tub. Most of them are of the hand operated type, and were but a mechanical substitute for the scrubboard used by the housewife in hand washing. Instead of being differentiated from the old dolly and rubboard types, they are of those types and each of them washes clothes in the same way.

Defendant produced an alleged replica of one of them, the Morse patent, and demonstrated it before the Court in the *General Electric* case, and defendant's expert when requested on cross-examination to operate it, refused to do so (GE 222). The Court said he would operate it "even three minutes" with the statement that "A Missouri farmer ought to be able to run a washing machine" (GE 222-3). After witnessing the Court's effort in doing this, defendant's expert testified that he thought the ordinary housewife would prefer to use the old fashioned washboard instead of that machine of this 1870 patent as "the labor would be less" (GE 222-3, Finding 25, GE 37, App. 50).

Judge Otis, who saw the attempted demonstrations of many of the prior art machines in the *General Electric* case (reconstructed to suit defendant's purpose), at the thoroughly rehearsed and well acted "show" (GE 175) put on by defendant at the Baltimore Hotel, found that none of them embodied the Snyder invention (see illustration, D. E. 43, GE 1839, Of. 449). Judge Otis well characterized them and the testimony of defendant's expert with respect to them in his opinion (GE 557, App. 25).

We respectfully call attention to the opinion of Judge Byers (11 F. Supp. 743, 755), to the findings of Judge Otis (Findings 15, 20, 21, 22 and 24, GE 26-7, 32-4, 37, App. 36, 44-6, 50), and to the opinion of the Court of Appeals for the Eighth Circuit (100 F. (2d) 218, 224) as to these other machines, for we believe they are sufficiently disposed of there as not disclosing the Snyder invention, especially in view of the fact that they were not deemed of sufficient importance to be even mentioned by the Court of Appeals for the Second Circuit in either of its decisions.

IV.

(A)

The Court of Appeals for the Second Circuit Disregarded the Findings of the Trial Court in the Brooklyn Edison Case, on the Authority of Which the Easy-Hurley Cases Were Decided.

The trial before Judge Byers occupied more than six weeks. The condensed appellate record required 3479 printed pages and occupied six large volumes. This was largely due to the defendant's tactics and extended attempts to show that clothes could not possibly be washed by water action. This was so completely refuted and disposed of at that time that it was

not even argued in the Court of Appeals. Defendant's expert, Taggart, whose testimony is so criticized by Judge Otis (GE 557, App. 25), was on the witness stand for eleven days attempting to support this theory and in making numerous demonstrations of the plaintiff's, the defendant's and the prior art machines relied upon. After hearing his testimony and that of numerous other witnesses for the defendant, and witnessing demonstrations of machines produced by him said to represent the prior art, and observing him while testifying with respect thereto, Judge Byers held and found that the Maytag and the defendant's machines utilize the construction of claims 23 and 26 of the Snyder patent, that these operate in accordance with its teachings, and that none of the prior art machines are so constructed that they could be so operated. Judge Byers also found from the testimony of witnesses appearing before him that Snyder reduced his invention to practice many months before January 21, 1921. This was before any date that was claimed for Doughty & Davis It is apparent from an inspection of the opinion of the Court of Appeals for the Second Circuit that it gave no consideration to the findings of Judge Byers and little, if any, to the record (11 F. Supp. 743, 748-750; GE 849-57).

(B)

The Second Circuit Court of Appeals, in its decision written by Judge Manton in the Brooklyn Edison case, on the authority of which the Easy-Hurley cases were decided, relied upon and adopted numerous erroneous statements in defendants' briefs.

To illustrate, in that case Judge Manton said (86 F. (2d) 625, 627):

(1) With respect to the Snyder patent—

> "apparatus claims [23 and 26] call for washing clothes partly by water action and partly by rubbing the clothes against the moving agitator blades, with the rubbing the subordinate instead of the dominant factor in the cleansing."

An examination of these claims shows not the slightest justification for this statement. He also said (p. 627):

> "The evidence shows that the machine made under the patent and the machines of the appellant, as well, **cannot wash by water action alone.**"

and that in these machines the circular movement of the water

> "does in fact bring the clothes and different portions of them rapidly in contact with the **impeller blade which scrub, beat and flex** the clothes to conform the threads and loosen the dirt from the interstices of the fabrics."

These erroneous statements could have been based only on statements in defendants' brief and, the testimony of its witness Taggart which was rejected by Judge Byers after hearing him testify and witnessing his demonstrations of these machines (11 F. Supp. 743). It was also rejected by Judge Otis (GE 557, App. 25-6).

With respect to the interpretation of Snyder's claims 23 and 26, Judge Manton's statement (p. 629) that

> "Any shape tub will do. The interior surface may be corrugated or smooth. The impeller may be of any shape or it may or may not have a central tapered dome, and blades may be of any shape and need not be uniform or equally spaced"

shows a complete disregard of the plain limitation of these claims and of the findings of the trial court with respect thereto.

(2) With respect to the patents on which it relied to invalidate the Snyder claims—

(a) Davis (EH 918; GE 1056).

Having misconstrued the Snyder patent and its claims, the Second Circuit Court of Appeals disregarded the findings of Judge Byers and erroneously held that they were met by the disclosures of the Davis patent and the 1900 Company's machines made under it. In view of this holding, when defendant produced the same witnesses in the *General Electric* case who had testified in the *Brooklyn Edison* case concerning the operation of the Davis machines, these witnesses were further cross-examined. Their testimony there even more clearly showed that the Davis machine was simply one of the old rubboard type and was entirely different from the Snyder invention in construction and operation (Judge Otis, Finding 18, GE 27-30, App. 37-41; 100 F. (2d) 218, 221-3, C. C. A. 8. See discussions *supra* 23-6, 69-82.

(b) Doughty & Davis (EH 932; GE 1040).

Judge Manton said that the machine of this patent "anticipated" claims 23 and 26 of the Snyder patent and "rendered these claims of the patent invalid." In doing this the Court completely disregarded the findings of fact of Judge Byers that Snyder had reduced his invention to practice months before January, 1921 (11 F. Supp. 743, 757; Finding 26, GE 855, App. 50).

Judge Otis also found from the proofs taken before him that Snyder made his invention more than eight months before the earliest date that could be claimed for Doughty & Davis (Finding 27, GE 38, App. 50-1).

Judge Manton's statement that this machine (p. 628) "provides the same circulation movement of the water

and the fabrics" is directly contrary to the findings of fact of the trial court.

(c) Jardine British Patent (EH 937; GE 1047).

The opinion of the Second Circuit Court of Appeals shows that it could not have carefully considered this patent for it says that it is (p. 629):

> "characterized by the **absence of rubboard surfaces** within the tub, and by a **vigorous agitation of water** by the agitator. The only rubbing that occurs is between the clothes and the agitator."

The drawings of this patent clearly show large vertical rubbing cleats a', a' on the interior of the tub of this machine referred to in the specifications. The closest examination of the specifications will not disclose any suggestion of a vigorous agitation of the water by the agitator or any statement to the effect that the only rubbing that occurs is between the clothes and the agitator.

It is impossible to operate the Jardine machine without the clothes being rubbed both by the agitator and the vertical cleats on the interior of the tub. Judge Manton's statement (p. 629), taken from defendant's brief in *Brooklyn Edison* case and repeated in its brief in the *General Electric* case, that—

> "The vertical ribs or projections on the inner surface of the tub [Jardine] have no functions and do not affect the washing operation when the agitator is reciprocated instead of being revolved."

is without substance. Judge Byers and Judge Otis both found that "there is no suggestion or intimation in the patent that the vertical ribs on the interior surface of the tub have no functions and do not affect the washing operation. Their presence in the drawing and specification (EH 937-41; GE 1047-53) clearly indicates the contrary. There is

nothing to suggest that the only rubbing that occurs is between the clothes and the agitator." (Finding 19, GE 31, App. 42). The whole improvement claimed in this Jardine patent was the ring or rim *c* placed around the bottom of the dolly to prevent clothes from getting underneath the dolly. If the Jardine patent had been designed to be operated in the manner disclosed and claimed by Snyder there would be no occasion for the ring or rim upon which the patent is predicated, for it is not required or used in plaintiff's and defendants' machines which utilize the Snyder invention. In defendants' machines (as advertised by defendants and as shown by the testimony), the clothes are kept in substantial suspension out of rubbing contact with the impeller or the sides of the tub while the machine is operated. In it nothing is required to prevent the clothes getting beneath the impeller. See also 100 F. (2d) 218.

The statement in the opinion (p. 629) that

> "it is clear that when the impellers of the prior art machine are rapidly reciprocated the water action specified in the claim [23] occurs,"

is entirely without foundation, and the evidence, and findings of Judges Otis, Byers and the Eighth Circuit Court of Appeals, show that none of the machines of the prior art were so operated or intended to be so operated.

The criticism of the decision in the *Brooklyn Edison* case is equally applicable to the decision in the Easy-Hurley cases as the latter did not in any wise modify or change the former.

———

That there was a recognized conflict of decision between the Second Circuit Court of Appeals and that of Judge Otis is shown by the following. In his memo-

random opinion Judge Otis said (GE 557, App. 26):

> "If the learned Circuit Court of Appeals for the Eighth Circuit contents itself with the printed record it is likely that it will follow the Second Circuit. If it permits the same demonstrations which we saw (and which, so it was said at the trial, the Second Circuit Court of Appeals refused to see), it may reach a different result. In the suggestion that it do that is our contribution to a just decision."

Notwithstanding that suggestion was made to the Eighth Circuit Court of Appeals, Judge Manton referred to the decision of Judge Otis and said (96 F. (2d) 88):

> "In that decision he expressed a willingness 'to make some contribution to the final decision,' but, upon examination of what he wrote, we discover no contribution to cause us to change the views expressed in the previous litigation in this circuit."

The Eighth Circuit Court of Appeals, however, after the opinions in both the *Easy-Hurley* and *Brooklyn Edison* cases had been brought to its attention, adopted the suggestion of Judge Otis, witnessed demonstrations of the machines in question, and affirmed the decree of Judge Otis, 100 F. (2d) 218.

V.

Validity of Snyder Patent Not Affected by Retention of Claim 39.

Defendants' contention in the courts below that the retention of method claim 39 rendered the Snyder patent invalid in its entirety in view of the disclaimer by plaintiff of method claims 38 and 1 following the decision of the Second Circuit Court of Appeals in the *Brooklyn Edison* case holding claim 38 invalid, was properly overruled by both the trial court and the

Court of Appeals in the *General Electric* case and ignored in the *Easy-Hurley* cases.

Claim 39 has never been asserted, and it has never been determined to be invalid, in any litigation. Claim 38 is the only method claim of the Snyder patent which has been adjudged to be invalid and it, together with claim 1, was disclaimed promptly (eight days) following the denial of a writ of certiorari in the *Brooklyn Edison* case.* This was done as a matter of policy to simplify further litigation by eliminating matters of controversy that could be avoided by confining such litigation to the more specific machine claims here in suit which were regarded as of sufficient scope to afford the patentee ample protection.

Claim 39 was not disclaimed, because as the Eighth Circuit Court of Appeals pointed out in the *General Electric* case (100 F. (2d) 218, 224), claim 39 is "essentially different from claim 38." The Court there said:

> "In Claim 38, the method is described as a 'method of washing fabrics by forcing cleansing liquid through and around them while substantially suspended by the action of the fluid.' Claim 39 includes as part of its operation the step of causing the fabrics 'to be freely moved about,' which is not specified in Claim 38."

Merely **suspending** the fabrics in the fluid by the action of the water while washing them is obviously quite a different operation than causing them **to be freely moved about** by the action of the fluid and cleansed while being thus moved. In view of the manifest difference between the two claims, it is indeed strained to assert that the disclaimer of claim 39 was

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*** Disclaimer filed February 23, 1937; certiorari denied February 15, 193[illegible]**

called for by the circumstances involving claim 38 which have been noted.

It has long been recognized that each claim of a patent is deemed to be for a separate invention. *Leeds & Catlin Co.* v. *Victor Co.*, 213 U. S. 301, 319. It follows that an adjudication of the invalidity of one claim of a patent does not necessitate the filing of a disclaimer of another especially where, as here, they are different, and a trial court and a court of appeals have concurred in so holding, and there is no holding to the contrary. No such necessity can possibly arise unless and until some court has held such other claims invalid. As this Court said in *Triplett* v. *Lowell*, 297 U. S. 638, 643:

> "The statute* permits the patentee to abandon by disclaimer parts of the patent which he does not choose to claim, and if the disclaimer is timely and adequate it authorizes him to maintain suit for infringement of the separable parts which he does choose to claim."

But the filing of a disclaimer of a particular claim is not required until after that claim shall have been determined to be invalid by an adjudication which shall have become final. *Ensten* v. *Simon, Ascher & Co.*, 282 U. S. 445, 453.

Moreover, the effect of filing a disclaimer has been quite generally regarded as restricted to the exigencies of the particular case. As the Court said in *Triplett* v. *Lowell*, 297 U. S. 638, 645:

> "The disclaimer statute is remedial, and intended for the protection of both the patentee and the public."

In *Permutit Co.* v. *Wadham*, 13 F. (2d) 445, C. C. A. 6, the Court (Judge Denison) said (p. 457):

> "We do not understand that a disclaimer to avoid the supposed anticipating or limiting effect

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* Sections 4917, 4922, 35 U. S. C. §§ 65, 71 (App. 57-8).

> of some other publication is a confession that the patent would be void if the disclaimer were not made . . . . We see no reason why he [the patentee], is not at liberty, after the disclaimer as before, to deny the anticipatory effect of the other matter; and it has been so held."

The same Court held to the same effect in *Nelson* v. *Meyers,* 29 F. (2d) 968, 969; and in *Metropolitan Device Corp.* v. *Cleveland Co.,* 36 F. (2d) 477, 479. Adopting a like view, other courts have said:

> "There is no objection to his [the patentee] limiting a valid patent as his fears may dictate."
>
> *Sachs* v. *Hartford Co.,* 47 F. (2d) 743, 747, C. C. A. 2.
>
> *United Chromium* v. *International Silver Co.,* 60 F. (2d) 913, 915, C. C. A. 2.

As the Eighth Circuit Court of Appeals said in the *General Electric* case (100 F. (2d) 218, 225):

> "A patentee, in disclaiming, decides a question of policy. He may think that although the charge of anticipation can be successfully met and defeated, yet a disclaimer will not affect the real value of his patent and to make it may avoid trouble and expense. He is at liberty after the disclaimer, as well as before, to deny the anticipatory effect of the other matter. *Permutit Co.* v. *Wadham, supra.* There is here no claim of fraud, undue delay, or other malpractice, and we are clear that the disclaimer of the two claims was not an admission that they are invalid, nor would such disclaimer necessitate disclaiming Claim 39."

Defendants' highly technical contention that the retention of claim 39 renders the patent in suit invalid is without merit and must fail as it did in the courts below.

Conclusion.

"The invention all admired, and each how he
To be the inventor missed;
So easy it seemed,
Once found, which yet unfound most would have thought impossible!" Milton's "Paradise Lost," Book VI, line 499.

> "Many things, and the patent law abounds in illustrations, seem obvious after they have been done, and, 'in the light of the accomplished result,' it is often a matter of wonder how they so long 'eluded the search of the discoverer and set at defiance the speculations of inventive genius.'" "Knowledge after the event is always easy, and problems once solved present no difficulties, indeed, may be represented as never having had any, and expert witnesses may be brought forward to show that the new thing which seemed to have eluded the search of the world was always ready at hand and easy to be seen by a merely skillful attention. But the law has other tests of the invention than subtle conjectures of what might have been seen and yet was not. It regards a change as evidence of novelty, the acceptance and utility of change as a further evidence, even as demonstration." *Diamond Rubber Co.* v. *Consolidated Rubber Tire Co.*, 220 U. S. 428, 434.

The Snyder washing machine covered by the claims in suit has contributed a very substantial and useful advance in the art, enabling clothes to be washed thoroughly clean and in much less time than in previous types of machines, without detriment to them. It has brought relief to housewives for which a pressing need had long existed. It was projected into an art in which inventors had been working for more than a century without solving the problem. It consists of a combination of elements constructed and operating together on an original plan, in a manner quite different from any

prior device. Due to its novelty of construction and operation, when first put on the market, housewives could only be convinced of its utility and success by actually doing washings in it. However, despite the early criticism and ridicule of competitors selling old type machines, housewives later came to demand it to such an extent that it has largely supplanted all previous types and plaintiff alone has sold over three million of the Snyder machines.

The Snyder invention was subjected to the close scrutiny of the Patent Office during a long interference proceeding with another who claimed the invention as his. This delayed the issuance of the patent for more than six years. During this contest the art here principally relied upon by defendants was rejected as not disclosing Snyder's invention. The presumption arising from the grant of the patent under such circumstances has been further augmented by the concurrent findings of the trial court and the Court of Appeals in the *General Electric* case and those of the trial court in the *Brooklyn Edison* case, which are to be regarded under the decisions of this Court as unassailable so far as there is any testimony consistent with them.

Each of the defendants has copied in substance and effect Snyder's patented construction and has claimed for its infringing machines the same operation and inherent advantages as are disclosed and claimed by Snyder. This copy has been a wanton one, inspired by the success of the patented device, and has appropriated precisely what was original with Snyder. Defendants relied and are relying on their extraordinary financial and business advantages over plaintiff to wrest from it the article of manufacture upon which plaintiff's business has almost wholly been built up.

During the many years that defendants were carrying on their businesses on a large scale, none of their skilled engineers ever produced or discovered the device which they now find they must have to successfully compete with the plaintiff, and which was first given to the public by the plaintiff's patentee. However their experts and attorneys may argue that it required no invention to construct such a device, or that the prior devices were substantially similar to it, neither defendants nor anyone else prior to Snyder perceived or brought into existence any machine embodying his invention now represented to be so obvious. Defendants are not willing to use as a substitute for their infringing machines any of the prior devices which they are asking the Court to treat as an equivalent of the device of the patent in suit. The relief which the plaintiff here prays will leave the defendants free to use the devices of any of the prior patents in accordance with those patents and only prevent them from seizing and converting to their own use the device of plaintiff's patentee.

We respectfully submit that the Snyder patent satisfies every judicially recognized test of invention, that each of the defendants infringes its claims here asserted, and that the decrees in Nos. 76 and 77 should be reversed and that in No. 661 should be affirmed.

WALLACE R. LANE,
THOMAS G. HAIGHT,
NELSON E. JOHNSON,
OSCAR W. JEFFERY,
Counsel for Petitioner in Nos. 76 and 77 and Respondent in No. 661.

PLATE 1.

Reproduction of Fig. 1 of Snyder patent No. 1,866,779, July 12, 1932 (EH 657; GE 563), showing Maytag Gyrator type washing machine made under this patent P. E. 9 (Of. EH 160; Of. GE 118), first sold February, 1922.

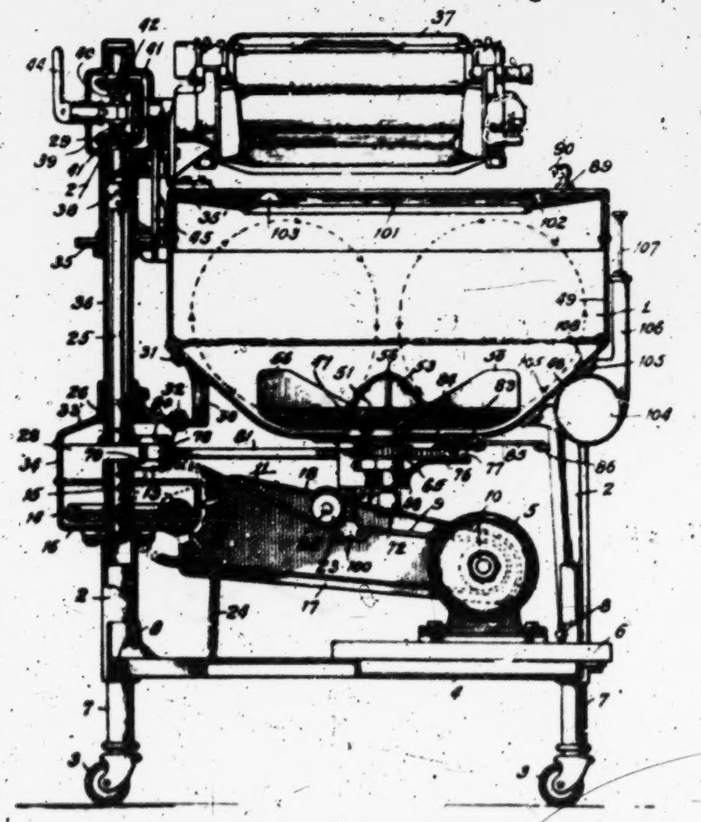


PLATE 2.

Reproduction of P. E. 10A (EH 699, Of. 300; GE 643, Of. 95), showing square tub Maytag Gyrator type washing machine P. E. 10 (Of. EH 160; Of. GE 95) as made under Snyder patent, commencing 1924.

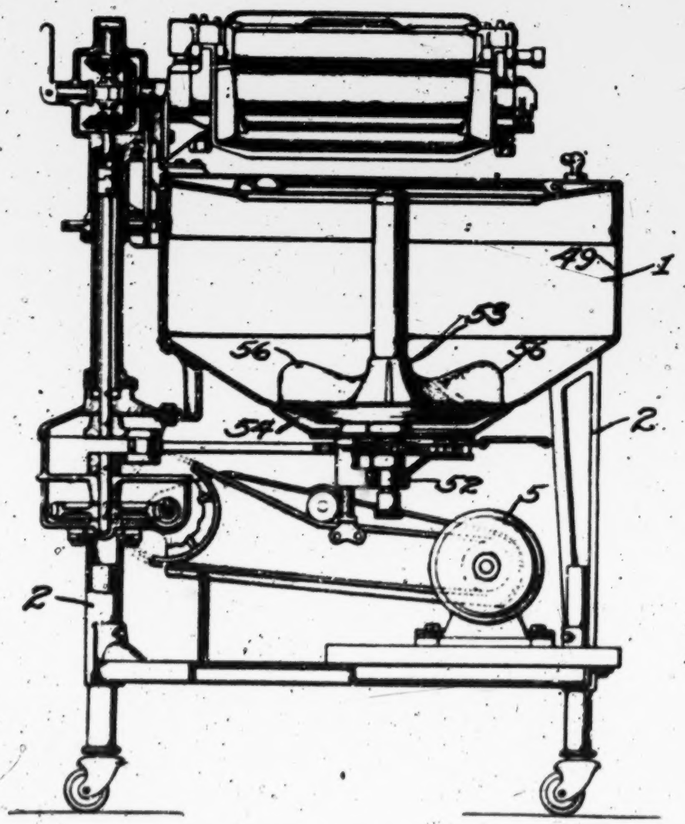


PLATE 3.

Reproduction of P. E. 11A (EH 700, Of. 300; GE 645, Of. 95), showing Maytag round tub Gyrator type washing machine P. E. 11 (Of. EH 160; Of. GE 95) as made under Snyder patent.

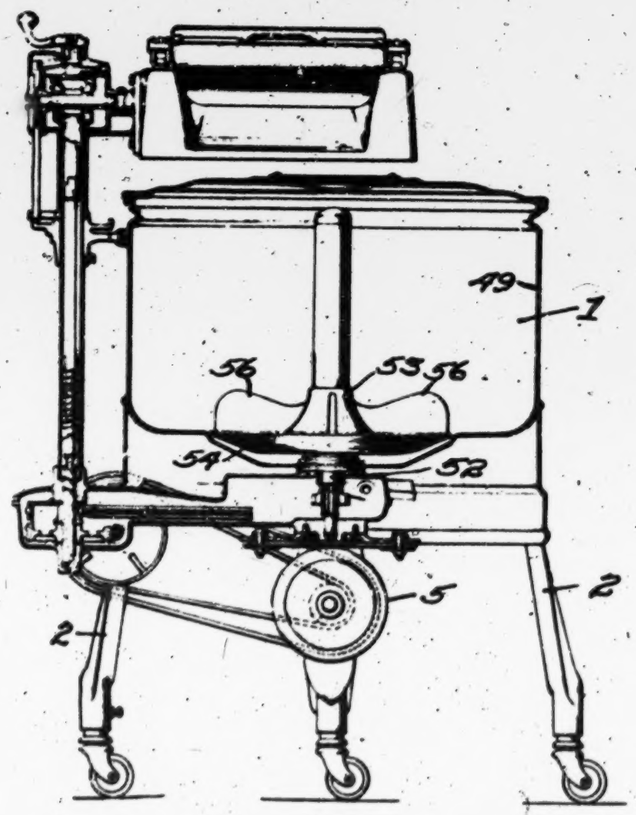
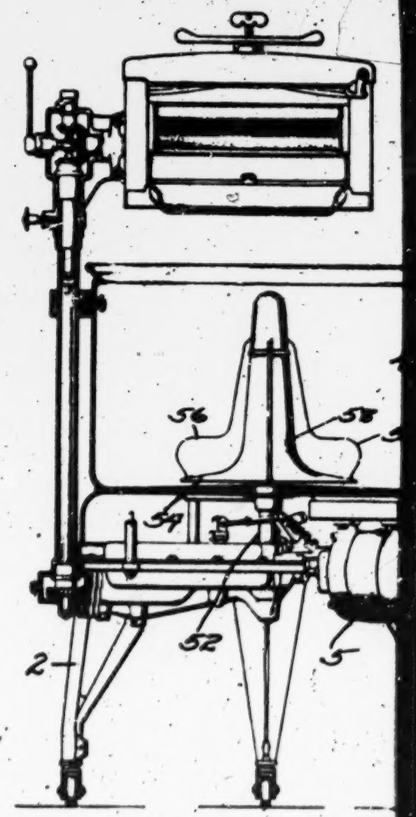


PLATE 4.

Reproduction of P. E. 3A (EH 67
showing Easy Washing Machine Co
Gyrator type washing machine P.
EH 171) charged to infrin



**PLAINTIFF'S AND DEFENDANTS' MACHINES ARE ALIKE IN ALL IMPORTANT FEATURES OF CONSTRUCTION A
THEY ALL OPERATE THE SAME WAY AND SECURE**

Each has

(A) A smooth interior tub (1)

(B) An imperforate water impeller mounted for operation in a fixed plane at the b
1. A circular base (54) of considerably less diameter than the body of the
substantial distance from the smooth interior (49) of the tub
2. A central upwardly projecting dome or stem (53)
3. A plurality of equally spaced impeller blades (56) of substantial height
from the upper surface of the base (54) and extending from the central

(C) A drive shaft (52) for supporting the impeller for oscillation in a fixed plane
tub (1)

(D) A gearing below the tub connected to the drive shaft to enable it to be rapidly

(E) A motor (5) for rapidly driving the gearing, drive shaft and impeller.

These parts are so constructed and arranged relative to each other that when the impeller is rapidly oscillated the washing
opposite outward circulatory direction and caused to meet and flow inwardly toward the center of the impeller whereby "the cloth
whirls and dashes them about and holds them "in suspension by the peculiar and novel movement and action of the water" "as
or other mechanism, or tumbled against the sides of the tub or rubbed against projections on the interior of the tub." P. E. 1 (

STATEMENTS FROM THE SNYDER PATENT AND THOSE ISSUED TO THE PUBLIC IN CONNECTION WITH THE SALE OF PLAINTIFF'S AND DEFENDANTS' MACHINES.

STATEMENTS IN THE SNYDER PATENT P. E. 1 (EH 657, Of. 148; GE 563, Of. 83).

"Very often valuable articles, relics, heirlooms and other objects of great value are composed partly or wholly of fine and frail textures, such that they cannot be easily washed when soiled, since their nature would not permit subjecting them to the rigors of the ordinary washing machine operation, or even washing by hand." (p. 1, line 17; EH 660; GE 569.)

"By my invention, the . . . most delicate and frail objects can be handled mechanically during the washing operation without marring their character and beauty. By reducing fric-

gyrator and driving mechanism, . . . the clothes are washed thoroughly, . . . by the action of the water itself on the materials as distinguished from their being rubbed or drawn through the water by a dolly or other mechanism, or tumbled against the sides of the tub or rubbed against projections on the interior of the tub. In my machine the clothes are driven and swirled about in and by the water in the interior of the smooth tub. The materials never come in any substantial contact with either the tub, or the gyrator which initially causes

MAYTAG—DIRECTIONS FOR OPERATING ITS SNYDER MAYTAG GYRATOR MACHINES CONTINUOUSLY USED SINCE 1928.

Sent Out With Each Machine.

"Second: Fill the tub with hot water to within two or three inches of the top. Put in the soap and run the gyrator until the soap is thoroughly dissolved.

"Third: **WITH THE GYRATOR STILL RUNNING** put in the clothes **PIECE BY PIECE** as long as the water rolls over them freely. The washing efficiency depends upon getting a

**DIRECTIONS FOR OPERATING MODEL "
WASHER. Sent out with the machi**

"2—Fill tub with hot water to ½" below
agitator.

3—Put in about two cups of soap flakes or,
is used, about one half bar dissolved in hot w
agitator a few minutes to thoroughly dissolv
make a good suds. Always use plenty of soap.

4—With agitator running put in clothes, one

PLATE 4.

of P. E. 3A (EH 675, Of. 300), Washing Machine Corp. "Easy" washing machine P. E. 3 (Of. 171) charged to infringe.

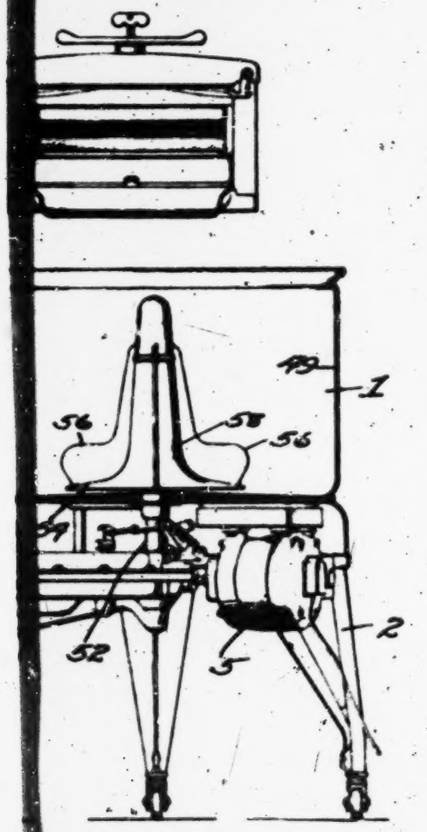


PLATE 5.

Reproduction of P. E. 4A (EH 676, Of. 300), showing Hurley Machine Company "Thor" Gyrator type washing machine P. E. 4 (Of. EH 171) charged to infringe.

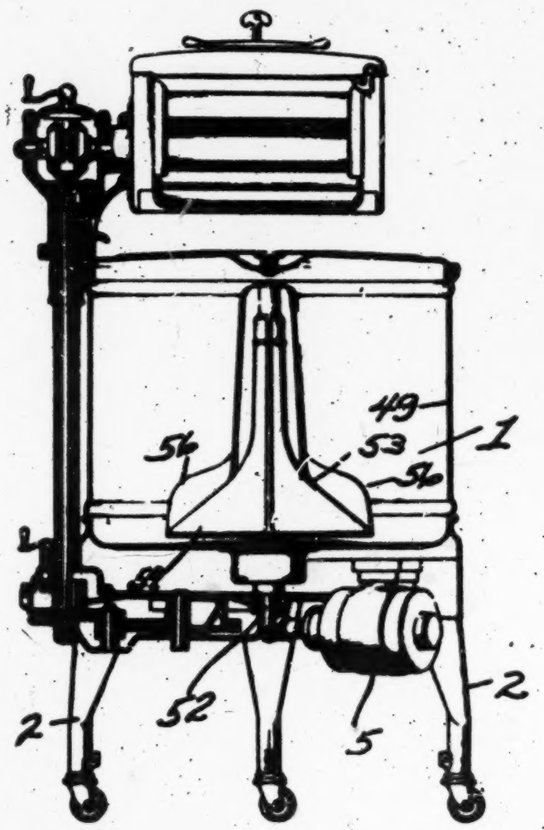


PLATE 6.

Reproduction of P. E. 12A (GE 671, Of. 147), showing G.E.'s round tub Activator washing machine P. E. 12 (Of. GE 96) held to infringe in General Electric Supply Corp. case.

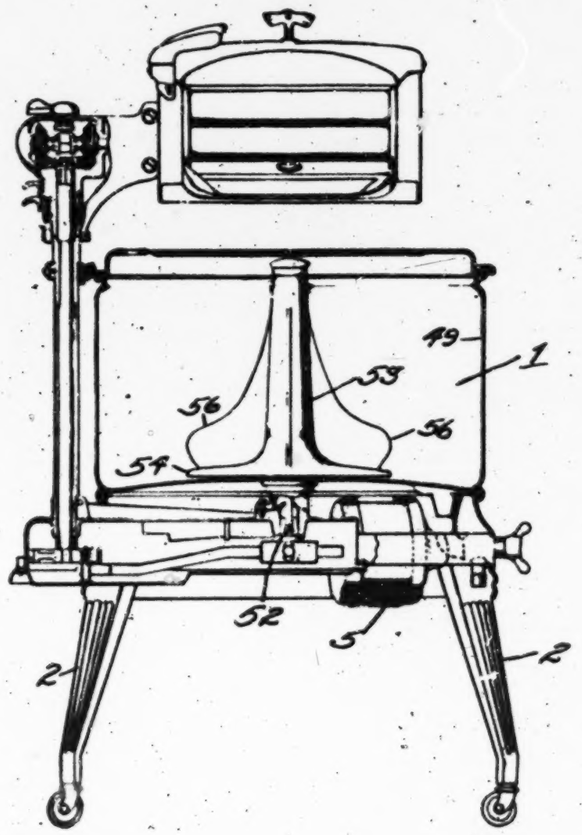
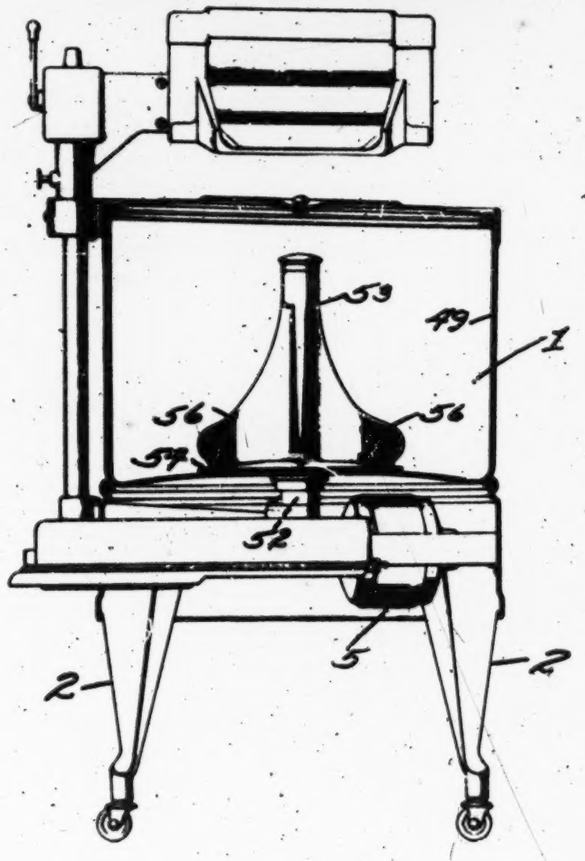


PLATE 7.

Reproduction of P. E. 12B (GE 673, Of. 501), showing G.E.'s square tub Activator washing machine P. E. 16A-B-E (GE 697, 701, 713, Of. 133-4) held to infringe in General Electric Supply Corp. case.



CONSTRUCTION AND ARRANGEMENT OF PARTS AS SHOWN IN THESE DRAWINGS. WAY AND SECURE THE SAME RESULT.

a fixed plane at the bottom of the tub having han the body of the tub so that its periphery is spaced a f the tub

f substantial height and lateral area projecting upwardly ing from the central stem (58) to the margin of the base ation in a fixed plane extending through the bottom of the

o enable it to be rapidly oscillated t and impeller.

scillated the washing fluid in the tub will be vigorously and rapidly impelled in one and then in an ller whereby "the clothes are washed thoroughly, . . . by the action of the water itself" which whips, n of the water" "as distinguished from their being rubbed or drawn through the water by a dolly of the tub." P. E. 1 (EH 667, Of. 148; GE 563, Of. 80; p. 1, lines 7-54; p. 2, lines 19-36; p. 5, lines 1-28).

TS' MACHINES.

OPERATING MODEL "3F" EASY . Sect out with the machine.

h hot water to ½" below load line on

two cups of soap flakes or, if bar soap half bar dissolved in hot water. Run inutes to thoroughly dissolve soap and Always use plenty of soap.

running put in clothes, one piece at a lessens the roll-over fast washing qual- and to a time basis."

STATEMENTS IN HURLEY COMPANY "THOR" CIRCULARS.

"Five Minutes a Tubful! Clothes sweet and clean. Made so by the fast, gentle action of its remarkable Agitator."

"The THOR Agitator has been designed to afford a speedy cleansing of clothes with the most gentle washing action." P. E. 18 (EH 707-8, Of. 148).

"Your washer should assure you not only a fast washing, but a gentle one, for no washer is an economy if it causes excessive wear on clothes. You can feel safe in washing even your daintiest garments in this washer, for clothes last 50% longer when washed this improved Thor way."

STATEMENTS IN ADVERTISEMENTS AND CIRCULARS ISSUED IN CONNECTION WITH THE SALE OF GENERAL ELECTRIC MACHINES.

"The New G-E Washer is most remarkable of all because of the way it washes clothes. In a few minutes, it can prove to you that the rubbing and pummeling methods of 3,000 years have been wrong! Clothes DON'T have to be worn out before their time. See the almost miraculous way the exclusive G-E Activator forces suds through fabric, makes suds and water currents do all the work."

"General Electric engineers have made these washers more than 'new models' or 'improved editions.'

"They've gone to the very roots of washing clothes. They've asked 'Do dirty clothes actually have to be rubbed, or pounded, to

INSTRUCTIONS FOR DEMONSTRATION OF G-E WASHERS.

"When making the Activation Test have the prospect look down into the tub. Call to the prospect's attention the circulation of the clothes through the various zones . . up from the bottom of the tub, then down the curves of the ACTIVATOR to the Full Power Washing Zone . . then up again . . down again . . up . . down . . repeated over and over.

Also have the prospect watch the movement of the clothes looking through the side of the special glass tub. Call attention to the roll-over movement of the clothes through the water similar to that of a barrel rolling across a floor. This roll-over movement flushes water through the fabrics—loosening and removing embedded dirt. This simple activation test clearly shows the six multiple actions of

(E) A motor (5) for rapidly driving the gearing, drive shaft a

These parts are so constructed and arranged relative to each other that when the impeller is rapidly oscil opposite outward circulatory direction and caused to meet and flow inwardly toward the center of the impeller whirls and dashes them about and holds them "in suspension by the peculiar and novel movement and action or other mechanism, or tumbled against the sides of the tub or rubbed against projections on the interior of

STATEMENTS FROM THE SNYDER PATENT AND THOSE ISSUED TO THE PUBLIC IN CONNECTION WITH THE SALE OF PLAINTIFF'S AND DEFENDANT

STATEMENTS IN THE SNYDER PATENT P. E. 1 (EH 667, Of. 148; GE 563, Of. 80).

"Very often valuable articles, relics, heirlooms and other objects of great value are composed partly or wholly of fine and frail textures, such that they cannot be easily washed when soiled, since their nature would not permit subjecting them to the rigors of the ordinary washing machine operation, or even washing by hand." (p. 1, line 17; EH 660; GE 569.)

"By my invention, the . . . most delicate and frail objects can be handled mechanically during the washing operation without marring their character and beauty. By reducing friction on the articles to be washed the life of the article is preserved." (p. 1, line 25; EH 660; GE 569.)

Due to their construction, arrangement and operation "the gyrator and tub . . . to co-act that the goods to be cleansed are not only given a definite washing and cleansing movement, but are also maintained, during such movement, in a suspended condition in the liquid, so that the rapid and energetic alternating rotary movements of the gyrator do not interfere with the goods or cause them any injury or damage, while at the same time the goods and the wash water, . . . are turbulently swirled or whirled about with a surging and seething movement within the tub." (p. 1, line 40; EH 660; GE 569.)

"Due to the construction and arrangement of the tub, gyrator and driving mechanism, . . . the clothes are washed thoroughly, . . . by the action of the water itself on the materials as distinguished from their being rubbed or drawn through the water by a dolly or other mechanism, or tumbled against the sides of the tub or rubbed against projections on the interior of the tub. In my machine the clothes are driven and swirled about in and by the water in the interior of the smooth tub. The materials never come in any substantial contact with either the tub, or the gyrator which initially causes the agitation, seething and surging of the water on the interior of the tub." (p. 2, lines 19-36; EH 661; GE 570.)

"the washing and washable materials are given a turbulent swirling action. As a result of this action imparted to the cleansing liquid by the gyrator, the water in turn imparts a similar action to the fabrics. Goods are thus whipped, whirled and dashed around in the stewing, whirling, turbulent action set up by the gyrator. Thus the fabrics are given a quick, snappy, stewing, whirling, reversing double action, produced by the gyrator, doubling the clothes first one way and then the other until every thread in the fabric is acted upon an untold number of times, somewhat like the cracking of a whip-lash in all directions." (p. 5, line 14; EH 664; GE 573.)

MAYTAG—DIRECTIONS FOR OPERATING ITS SNYDER-MAYTAG GYRATOR MACHINES CONTINUOUSLY USED SINCE 1922.

Sent Out With Each Machine.

"Second: Fill the tub with hot water to within two or three inches of the top. Put in the soap and run the gyrator until the soap is thoroughly dissolved.

"Third: **WITH THE GYRATOR STILL RUNNING** put in the clothes **PIECE BY PIECE** as long as the water rolls over them freely. The washing efficiency depends upon getting a free action of the water over the clothes." 1922 Directions for Operating; P. E. 11E (GE 665-7, Of. 93) P. E. 13 (Of. EH 165).

MAYTAG CIRCULARS, ETC.

"It cleans as no other principle can." "The gyrating currents of water gently flex and work the fabrics until the dirt is loosened. Then the turbulent action of the water carries the dirt free of the clothes."

"It is beyond our power to describe the action of the water, its washing speed, its thoroughness and the care with which it handles even the most delicate things." P. E. 12 (EH 701-2, Of. 333) P. E. 11B (GE 647-51, Of. 94).

DIRECTIONS FOR WASHER.

"2—Fill tub with h agitator.

3—Put in about two is used, about one-hal agitator a few minut make a good suds. Al

4—With agitator ru time. Overloading lea city of the machine, an

"The 'EASY' agita will not harm them." E. 52 (EH 783-4, Of. 3

STATEMENTS IN EA

"The new, specially the clothes in constant ideal 'roll-over' move 53 (EH 785, Of. 327).

y oscillated the washing fluid in the tub will be vigorously and rapidly impelled in one and then in an
peller whereby "the clothes are washed thoroughly, . . . by the action of the water itself" which whips,
tion of the water" "as distinguished from their being rubbed or drawn through the water by a dolly
or of the tub." P. E. 1 (EH 697, Of. 148; GE 563, Of. 80; p. 1, lines 7-54; p. 2, lines 19-36; p. 5, lines 1-28).

ANTS' MACHINES.

FOR OPERATING MODEL "H" EASY
HER. Sent out with the machine.

with hot water to ½" below load line on

ut two cups of soap flakes or, if bar soap
one-half bar dissolved in hot water. Run
minutes to thoroughly dissolve soap and
ds. Always use plenty of soap.

ther running put in clothes, one piece at a
ing insures the roll-over fast washing qual-
ean, and in a time basis."

agitator is very gentle on the clothes and
hem." Easy Directions for Operating, P.
, Of. 227.)

IN EASY CO. ADVERTISING.

ially designed Easy agitator" . . . "keep
ntent suspension and assist in providing an
movement that washes thoroughly." P. E.
227).

STATEMENTS IN HURLEY COMPANY "THOR" CIRCULARS.

"Five Minutes a Tubful! Clothes sweet and clean. Made so by the fast, gentle action of its remarkable Agitator."

"The THOR Agitator has been designed to afford a speedy cleansing of clothes with the most gentle washing action." P. E. 15 (EH 707-8, Of. 168).

"Your washer should assure you not only a fast washing, but a gentle one, for no washer is an economy if it causes excessive wear on clothes. You can feel safe in washing even your daintiest garments in this washer, for clothes last 50% longer when washed this improved Thor way."

"The Super-Agitator produces 926 water currents per minute. Speed without tangling or braiding." (P. E. 21 (EH 712, Of. 168).

"prevents clothes from tangling. It produces a new washing action."

"Spotlessly clean clothes—all safely cleansed by a gentle washing action that safeguards the most delicate fabric."

"a faster washing action without any possibility of tangling clothes." P. E. 20 (EH 716-1, Of. 168).

"New kindness to clothes." P. E. 23 (EH 715, Of. 168).

STATEMENTS IN ADVERTISEMENTS AND CIRCULARS ISSUED IN CONNECTION WITH THE SALE OF GENERAL ELECTRIC MACHINES.

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"General Electric engineers have made these washers more than 'new models' or 'improved editions.'

"They've gone to the very roots of washing clothes. They've asked, 'Do dirty clothes actually have to be rubbed, or pounded, to get them clean? Isn't there some gentler way?'"

"The G-E Activator, specially designed, washes even heaviest pieces as you wash dainty lingerie—by gently forcing suds through the fabric, many times a minute."

(Advertisement in Better Homes and Gardens, October, 1934, p. 47, entitled "It's miracles like these NEW washers that have made General Electric famous!") P. E. 16 (GE 693, Of. 134).

"The ACTIVATOR is found only in G-E Washers. Different from the ordinary agitators, it washes by water action alone—with no harsh scrubbing. That is why it is safe to wash even your daintiest pieces. Because of its unique design the currents set up by the ACTIVATOR'S motion cause the clothes to be flexed, and hot sudsy water to be forced through the mesh of the fabrics, thus assuring a perfectly and thoroughly done washing. The ACTIVATOR eliminates tangling and braiding—the common occurrence that causes clothes to wrap tightly around the ordinary agitator post and cause tearing and straining."

"No more frayed cuffs or collars—no more torn sheets—no more fears for silken lingerie—for in this washer your clothing gets a thorough scrubbing on a 'washboard of clean soap suds.'" P. E. 16A (GE 697, Of. 134).

INSTRUCTIONS FOR DEMONSTRATION OF G-E WASHERS.

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Also have the prospect watch the movement of the clothes looking through the side of the special glass tub. Call attention to the roll-over movement of the clothes through the water similar to that of a barrel rolling across a floor. This roll-over movement flushes water through the fabrics—loosening and removing embedded dirt. This simple activation test clearly shows the six multiple actions of the ACTIVATOR:

1. Effective washing action starts at water level.
2. Sturdy, downward tug sweeps out air bubbles and pulls clothes into Full Power Washing Zone at tips of ACTIVATOR blades.
3. Flexing of clothes to loosen embedded dirt particles.
4. Forcing of hot sudsy water through clothes by ACTIVATOR blades.
5. The swirling water action washes clothes as individual pieces, no braiding.
6. Circular roll-over movement of clothes through soapy water with a continuous return to the Full Washing Zone. No dead washing areas." P. E. 16E (GE 713, Of. 134).

DIRECTIONS FOR OPERATING GENERAL ELECTRIC MACHINES. Sent Out With Machines.

Place washing in the tub while the Activator IS IN MOTION. Distribute uniformly. Better results are obtained by washing smaller quantities of clothes for shorter periods of time than by crowding the machine with large loads. The former method will produce the same results in much less time.

The washing time required depends entirely upon the condition of the clothes. For proper washing action the clothes should be turning over freely in the water. P. E. 16B (GE 701, Of. 134). (Emphasis ours throughout.)

CHART II.

SHOWING SOME OF SNYDER'S PRIOR WORK IN HIS ATTEMPT TO IMPROVE THE OLD PEG DOLLY MACHINES THE MANUFACTURE OF WHICH WAS ABANDONED

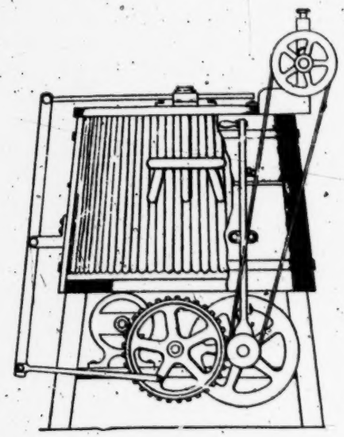
CUT I.

Maytag Peg Dolly Machine, Hand Operated.
(P. E. 5, EH 687, Of. 152; P. E. 6G, GE 621, Of. 83.)

Plaintiff first manufactured washing machines in 1908. (EH 149; GE 80.) These were of the then extensively used hand operated peg dolly type (P. E. 6, EH Of. 155; P. E. 4, GE Of. 86—physical exhibit). This machine comprised a wooden tub corrugated on its interior sides and bottom and a peg dolly which was slidably mounted upon an oscillating drive shaft extending through the lid of the tub. The dolly was freely slidable and adjusted itself to the amount of clothes in the tub. The dolly pegs penetrated the mass of clothes and dragged the clothes back and forth as a mass and against the scrubbing and rubbing corrugations in the tub. This type of machine, although the most efficient known at the time, was hard on the clothes and caused excessive wear and frequent tear of the garments (EH 151-2, 155-6, 172-3, 193-4; GE 82, 89, 119, 122). They were made and sold by plaintiff from 1908 to 1922 when **their manufacture was discontinued** (EH 155; GE 121).

CUT II.

Snyder's Power Operated Peg Dolly.
(P. E. 5, EH 689, Of. 152; P. E. 6I, GE 625, Of. 83.)

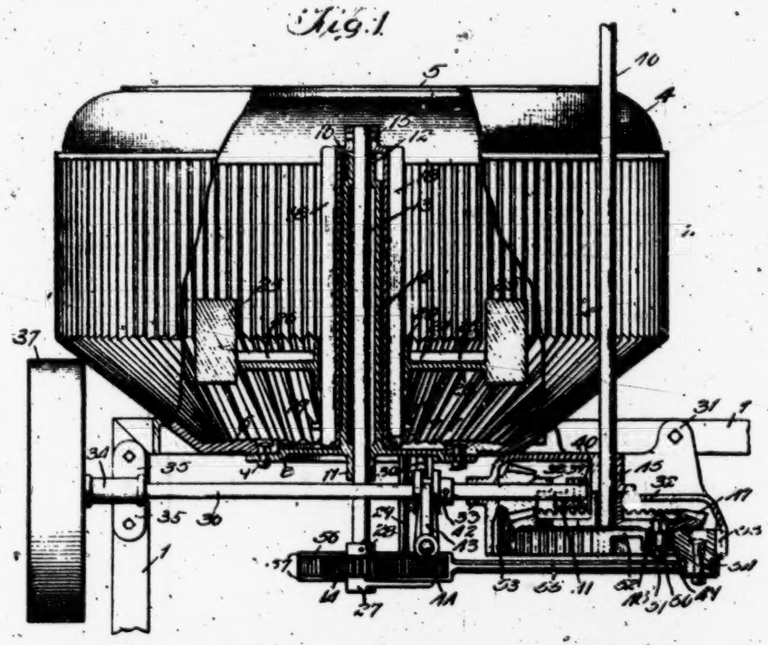


This is an early power operated peg dolly machine made and sold by plaintiff from 1912-1922. The tub and dolly structures were similar to those used in the hand operated machine shown in the preceding cut in which the dolly was slidably mounted upon an oscillating drive shaft, and operated on the same principle of dragging the clothes as a mass back and forth through the wash water, and rubbing and scrubbing the exterior of this mass against the corrugations on the sides and bottom of the tub (EH 150-2; GE 84). **They were discontinued in 1922** (EH 155; GE 121).

CUT III.

Snyder's 1915 Dolly Machine.
(D. E. B, EH 1034, Of. 344; P. E. 13, GE 674, 1112, Of. 120.)

Fig. 1

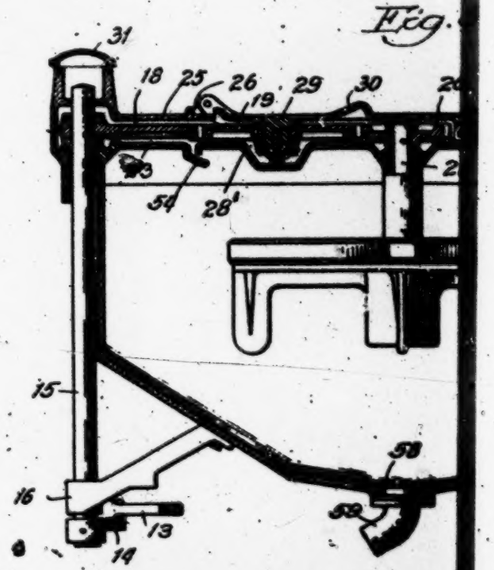


In 1914 and 1915, Snyder devised and patented a new dolly machine having an aluminum tub with corrugations cast into the metal itself (P. E. 169, EH Of. 558). **It was never sold.** Figure 1 of his patent No. 1,209,893 is shown above. This tub was constructed with a high center post or sleeve upon which was mounted an oscillating metal dolly adapted to drag the clothes as a mass through the wash water (EH 560-2; GE 119-20). In his patent Snyder states (p. 1, line 89; EH 1036; GE 1115): "In operation the **dolly** is placed upon the sleeve 16, and slides down thereon until the bottom of the collar 20 rests upon the pins 19 after which the water and clothes may be placed in the tub and the **machine operated in the ordinary fashion, the washing blades 25 gripping the clothes to carry them back and forth in the tub and rubbing them against the corrugated sides thereof.**"

CUT IV.

Snyder's Metal Flange Peg D
(D. E. B, EH 1050, Of. 344; P. E

Fig.



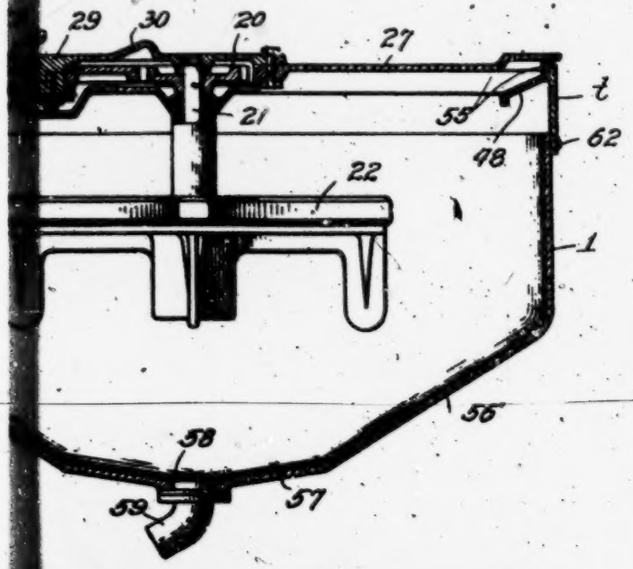
Snyder made another flange p
(P. E. 170C, EH 807, Of. 558; P.
shown in Figure 5 of his
The downwardly projecting flange
were made of metal to get a bette
clothes while dragging them thr
tub was made of aluminum and
cross section. This was known a
and operated as did the old p
dragged the clothes as a mass
wash water (EH 624; GE 120-1, 8
Difficulties were experienced i
about 2000 of these machines w
plaintiff, they were discontinued
GE 120-1, 87).

BANDONED WITH THE ADVENT OF THE SNYDER MAYTAG GYRATOR TYPE.

CUT IV.

tal Flange Peg Dolly of 1920-21.
0, Of. 344; P. E. 14, GE 684, Of. 120.)

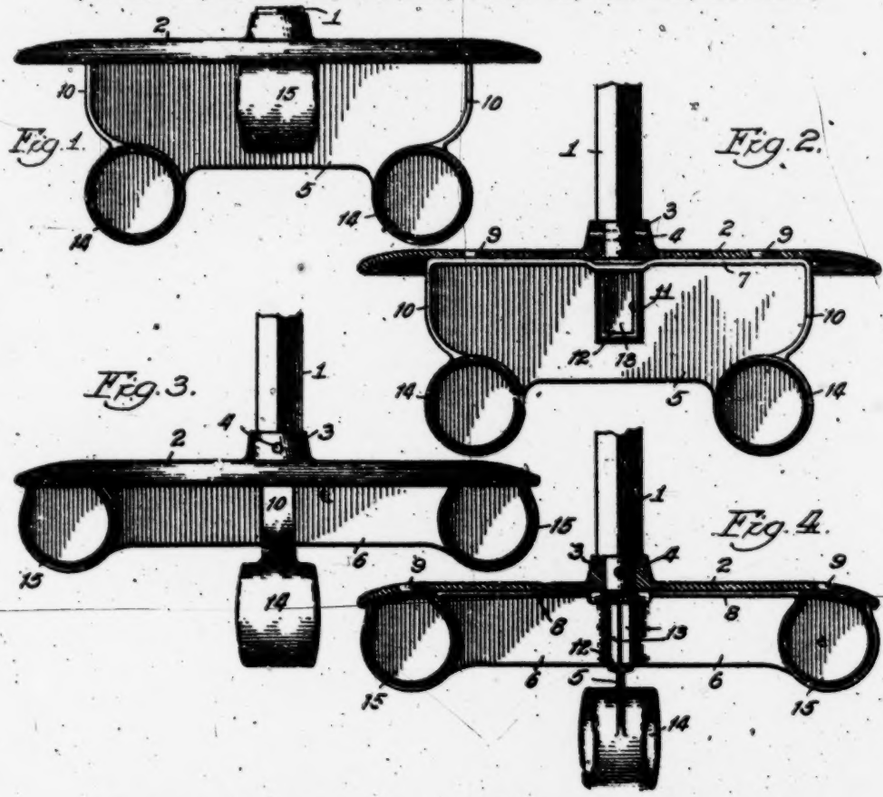
Fig. 5.



nother flange peg dolly type mach ne
807, Of. 558; P. E. 7C, GE 639, Of. 121)
re 5 of his patent No. 1,644,959.
projecting flanges and pegs of this dolly
al to get a better grip upon the mass of
gging them through the water. The
aluminum and substantially square in
is was known as the Maytag Model 70
did the old peg dolly machine and
hes as a mass back and forth in the
624; GE 120-1, 87-9).
e experienced in their sale, and after
ese machines were made and sold by
re discontinued by it in 1921 (EH 624;

CUT V.

Snyder's Flange Peg Dolly with Vacuum Cups of 1921.
(D. E. B, EH 1064, Of. 344; P. E. 15, GE 690, Of. 121.)



In 1921, Snyder made another type of metal disc dolly (P. E. 170D, EH 808, Of. 558; P. E. 7D, GE 641, Of. 121) provided with downwardly projecting flanges having suction cups at their outer ends as shown in the above cuts of his patent No. 1,714,894. This dolly was used in the same kind of tub that his flange peg dolly was used and operated in much the same manner as the peg dolly in that it dragged the clothes as a mass back and forth in the tub. The pegs had the suction cups designed to act in a manner somewhat similar to that of a reciprocating suction or vacuum cup device and to more firmly grip the clothes and drag them as a mass through the water (EH 624-5, 564; GE 87-9, 121).

The Maytag Company made and sold a few of these machines. **They were discontinued by it early in 1922** (EH 625; GE 87, 121).